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TITLE 250 – DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

CHAPTER 140 – WASTE AND MATERIALS MANAGEMENT

SUBCHAPTER 05 – SOLID WASTE

PART 8 – Solid Waste Regulation No. 8, Rhode Island Organic Waste Recycling Facilities (Composting Regulations)

8.1 Findings and Policy

A. Purpose

These Rules and Regulations are intended to minimize environmental hazards associated with the operation of leaf and yard waste composting facilities, putrescible waste composting facilities, mixed solid waste composting facilities and anaerobic digestion facilities. These Rules and Regulations are also designed to promote planning and implementation of Solid Waste Management Facilities and Organic Waste Recycling Facilities where necessary and desirable throughout the state.

B. Authority

These Rules and Regulations are promulgated pursuant to the requirements and provisions of R.I. Gen. Laws Chapters 2-1, "Agricultural Functions of Department of Environmental Management"; 2-22, "Rhode Island Soil Amendment Law"; 2-23, "Rhode Island Right to Farm Act"; 5-51, "Rhode Island State Board of Examiners of Landscape Architects"; 23-18.8, "Rhode Island Recycling Act"; 23-18.9, "Refuse Disposal"; 23-19, "Rhode Island Resource Recovery Corporation Act"; 23-19.1, "Hazardous Waste Management Act"; 23-23, "Air Pollution"; 23-63, "Vehicle Tire Storage and Recycling"; 37-15.1, "Hard-to-Dispose Material-Control and Recycling"; 42-17.1, "Department of Environmental Management"; 42-17.6, "Administrative Penalties for Environmental Violations"; 44-27, "Taxation of Farm, Forest, and Open Space Land"; and 46-12, "Water Pollution"; in accordance with the provisions of R.I. Gen. Laws Chapter 42-35, "Administrative Procedures Act".

C. Application

The terms and provisions of these Rules and Regulations shall be liberally construed to allow the Department to effectuate the purposes of state law, goals and policies.

D. Function

The primary functions of the Department are the regulation of solid waste and to grant, deny, suspend or revoke licenses and registrations for the operation of Solid Waste Management Facilities and Organic Waste Recycling Facilities and to grant, deny, suspend or revoke approval of the plans and specifications for the construction of Solid Waste Management Facilities and Organic Waste Recycling Facilities and the installation of any equipment in such facilities. Any and all Solid Waste Management Facilities and Organic Waste Recycling Facilities, licensed or not licensed (or registered or not registered), and projects including control and remediation shall be subject to the regulatory and enforcement activities of the Department.

E. Severability

If any provision of these Rules and Regulations, or the application thereof to any person or circumstances, is held invalid by a court of competent jurisdiction, the validity of the remainder of the Rules and Regulations shall not be affected thereby.

F. Superseded Rules and Regulations

On the effective date of these Rules and Regulations, all previous Rules and Regulations, and any policies regarding the administration and enforcement of the pertinent sections of the chapters of the R.I. Gen. Laws listed in § 1.2(B) of this Subchapter shall be superseded. However, any enforcement action taken by, or application submitted to, the Department prior to the effective date of these Rules and Regulations in effect at the time the enforcement action was taken, or application filed.

G. Definitions:

See Solid Waste Regulation No. 1, § 1.5 of this Subchapter for all pertinent definitions for these regulations.

8.2 Organic Waste Recycling Facilities

A. For the purpose of the Regulations, Leaf and Yard Waste and Putrescible Composting Operations/Facilities are classified by size. Mixed Solid Waste Composting Facilities and Anaerobic Digestion Facilities are classified by facility type and shall follow the rules pertaining to those specific facilities.

B. The classifications in the table below clarify the requirements that shall be followed by Small-Scale Composting Operations, Medium-Scale and Large-Scale Composting Facilities per the definitions in Solid Waste Regulation No. 1, § 1.5 of this Subchapter:

Classification	Small-Scale Composting Operation	Medium-Scale Composting Facility	Large-Scale Composting Facility
*Total Quantity On-site (Excluding finished compost)	Quantity < 25 yd3	25 ≤ Quantity ≤ 600 yd3	Quantity >600 yd3
Plan Facility Requirements According to:	§ 8.3 of this Part	§ 8.4 of this Part	Leaf and Yard Waste: §§ 8.1 and 8.2 of this Part Putrescible Waste: §§ 8.3 and 8.4 of this Part
*The "total quantity" includes unincorporated feedstock and feedstock that is staged, stored, processed or in the curing stage. Only finished compost is excluded.			

C. Backyard Composting, as defined in Solid Waste Regulation No. 1, § 1.5(A)(22) of this Subchapter, is not subject to Small-Scale Composting Operations, Medium-Scale and Large-Scale Composting Facility Rules and Regulations, but may be subject to Department enforcement actions if best management practices acceptable to the Department are not followed.

8.3 Small-Scale Leaf, Yard and/or Putrescible Waste Composting Operations

A. General

1. Registration by the Department is not required. It is the responsibility of the owner/operator to obtain all necessary permits or approvals, if required by federal or local laws and regulations, or if required by other regulations of the State.

2. Small-Scale Composting Operations shall only accept and utilize the following wastes in the composting operation; leaf and yard waste, certain food wastes including fruits and vegetables, tea leaves, coffee grounds, eggshells, hair, sawdust, manures from animals that eat only plants, clean (uncontaminated) wood chips/bark, hay, straw and shredded corrugated cardboard.

3. The following wastes are specifically prohibited and include, but are not limited to, diseased plants, black walnut tree leaves and twigs (releases possible harmful substances), grease, fats, meat scraps and bones, fish scraps and bones, shellfish, dairy products and eggs, oily foods, pet wastes (from dogs, cats, etc.), diapers, sanitary products, coal ash, and charcoal ash.

4. Composting operations shall be in compliance with the following requirements:

    a. The operation shall not cause or be likely to cause pollution of ground water or surface waters.

    b. The operation shall not have a significant adverse effect on wetlands.

    c. The operation shall not create objectionable odors beyond the property line of the facility.

    d. Operating conditions shall be maintained that are sanitary and are not favorable to the harboring, feeding, and breeding of vectors, including rodents and insects that may cause health hazards or nuisances. In the event of vector control problems, the operator shall employ an exterminator or other means approved by the Department.

    e. The operation shall not create dust or litter problems.

    f. Storage of finished compost shall be performed in a manner that will not cause dust problems, runoff problems, or objectionable odors beyond the property line of the facility.

5. Finished compost shall meet Class A Compost Standards in accordance with § 8.12 of this Part.

6. The composting operation shall provide the Department, its authorized officers, employees, and representatives, and all other persons under Department oversight, an irrevocable right of access to the facility at all reasonable times for the purposes of performing inspections and investigations without prior notice.

7. If the Department determines the composting operation does not comply with §§ 8.3(A)(2) through (5) of this Part, the operation shall come into compliance with § 8.3(A) of this Part requirements within thirty (30) days of Department notification. Any operation cited by the Department two (2) times within a six (6) month period shall cease accepting any new feedstock from off-site until the composting operation can verify the operation is in compliance with § 8.3(A) of this Part requirements.

8.4 Medium-Scale Leaf, Yard and/or Putrescible Waste Composting Facilities

A. General

1. Registration by the Department is required and the details of the registration application shall include information as required in § 8.4(B) of this Part, on a form prescribed by the Director ("Registration Form for Medium-Scale Composting Facility"). The Department will notify the applicant of deficiency(s), if any, in the applications within twenty-one (21) days of application receipt; otherwise the applicant may commence composting operations after that time period. Re-registration with the Department will be required if any of the following events occur:

    a. There is a change in the identity of the facility's owner/operator.

    b. There is a change in site location, as approvals are site specific.

2. It is the responsibility of the owner/operator to obtain all necessary permits or approvals, if required by federal or local laws and regulations, or if required by other regulations of the State.

3. Medium-Scale Composting Facilities shall accept and utilize the following wastes in the composting operation; leaf and yard waste, certain food wastes including fruits and vegetables, tea leaves, coffee grounds, eggshells, hair, sawdust, manures from animals that eat only plants, clean (uncontaminated) wood chips/bark, hay, straw, shredded corrugated cardboard and other wastes that are acceptable to the Department.

4. The following waste restrictions and limitations apply:

    a. Wastes that are prohibited from acceptance include, but are not limited to diseased plants, black walnut tree leaves and twigs (releases possible harmful substances), pet wastes (from dogs, cats, etc.), diapers, sanitary products, coal ash, and charcoal ash.

    b. Any combination of grease, fats, meat scraps and bones, fish scraps and bones, shellfish, dairy products and eggs, and oily foods may be accepted, provided that the following steps are completed:

        (1) The facility proposes a sixty (60) day pilot program to the Department describing how one or more of these wastes will be stored and processed at the facility in a manner that will avoid creating objectionable off-site odors and other nuisance conditions.

(2) The Department approves of the proposed pilot program prior to commencement of the pilot program.

(3) The facility carries out the approved sixty (60) day pilot program in a manner that avoids creating objectionable off-site odors and other nuisance conditions and submits results to the Department.

(4) The Department finds the pilot program to be successfully carried out and grants approval, in writing, to the facility to continue to store and process these specific wastes.

5. Composting operations shall be in compliance with the following requirements:

a. The operation shall not cause or be likely to cause pollution of ground water or surface waters.

b. The operation shall not have a significant adverse effect on wetlands.

c. The operation shall not create objectionable odors beyond the property line of the facility.

d. Operating conditions shall be maintained that are sanitary and are not favorable to the harboring, feeding, and breeding of vectors, including rodents and insects that may cause health hazards or nuisances. In the event of vector control problems, the operator shall employ an exterminator or other means approved by the Department.

e. The operation shall not create dust or litter problems.

f. Storage of finished compost shall be performed in a manner that will not cause dust problems, runoff problems, or objectionable odors beyond the property line of the facility.

6. Finished compost shall meet Class A Compost Standards in accordance with § 8.12 of this Part.

7. The composting operation shall provide the Department, its authorized officers, employees, and representatives, and all other persons under Department oversight, an irrevocable right of access to the facility at all reasonable times for the purposes of performing inspections, investigations, testing and examining records without prior notice.

8. The operation shall reimburse the Department for any costs incurred as a result of sampling and analytical testing.

9. If the Department determines the composting operation does not comply with subparagraphs §§ 8.4(A)(2) through (5) of this Part, the operation shall come into compliance with § 8.4(A) of this Part requirements within thirty (30) days of Department notification. Any operation cited by the Department two (2) times within a six (6) month period shall cease accepting any new feedstock from off-site until the composting operation can verify the operation is in compliance with § 8.4(A) of this Part requirements. Failure to comply may result in a formal enforcement action with penalty.

B. Elements of Registration

1. The registration of a Medium-Scale Leaf, Yard and/or Putrescible Waste Composting Facility includes submittal to the Department on a form prescribed by the Director, which includes the following information:

a. Name, business/organization address and business/organization telephone number of the composting operation's owner and the owner of the land on which the composting operation is located.

b. Location of the composting operation (address).

c. Name of the individual to be primary contact for the Department.

d. Acreage of the property on which the composting operation is located.

e. Acreage of area used, or to be used, for waste processing activities and storage of compost.

f. Volume of waste composted, or expected to be composted, annually.

g. A site sketch using a tax assessor's map showing the property line with the major components of the composting facility labeled and dimensioned.

h. Distances to nearest wetland, surface water and nearest public/private well.

i. Operating days and hours.

j. Receiving procedures and a detailed description of the types of wastes to be received.

k. Procedures and processes for composting methods.

l. Monitoring procedures.

m. Personnel and duties.

n. Equipment to be used in compost operation, including substitute equipment.

o. Storage provisions.

p. Distribution of compost information.

q. Contingency Plan, which includes the following information:

r. Personnel and user injury

s. Equipment breakdown

t. Non-authorized wastes

u. Releases of hazardous or toxic materials

v. Fire

w. Storm water run-off/leachate controls

x. Odors

y. Pests

z. Registrant's signature and certification

8.5 Large-Scale Leaf and Yard Waste Composting Facility - Registration Requirements

A. General

1. § 8.5 of this Part and its sub-paragraphs apply to leaf and yard waste composting facilities that will have on site (at one or more times during their existence) greater than 600 cubic yards of the combination of collected uncomposted feedstock and feedstock that has been placed into a composting process, excluding finished compost. Before constructing a composting facility and commencing leaf and yard waste composting, an owner or operator of a new leaf and yard waste composting facility shall register such facility with the Office of Land Revitalization and Sustainable Materials Management of the Department of Environmental Management (DEM) and obtain from the DEM a written approval that such registration is complete.

2. An owner or operator of an existing leaf and yard waste composting facility shall register such facility with the Department. (Part 1 of this Subchapter.)

The registration and one copy thereof shall be delivered personally or by mail to the Office of Land Revitalization and Sustainable Materials Management within the Department of Environmental Management.

3. It is the responsibility of the applicant to obtain all necessary permits or approvals required by federal, state, and local laws and regulations. Cooperation with the Office of Land Revitalization and Sustainable Materials Management will not be construed as relieving the applicant of this obligation.

4. Agricultural Composting Facilities will be permitted through the Division of Agriculture of the Department of Environmental Management.

5. Composting of seaweed at leaf and yard waste composting facilities may be allowed with prior approval from the Department.

6. The applicant shall also meet the general requirements in § 1.5 of this Subchapter.

B. Elements of Registration

1. The registration of a leaf and yard waste composting facility includes submittal to DEM of the following:

a. Initial Investigation Plans, per § 8.5(C) of this Part;

b. Facility background information, per § 8.5(D) of this Part;

c. Facility operating plan, per § 8.5(E) of this Part;

d. Additional information, per § 8.5(F) of this Part.

C. Initial Investigation Plans

Copies of the latest United States Geological Topographic Map and the United States Department of Agriculture Soil Survey Map, with the site outlined and a site sketch (using a tax assessor's map that shows the property lines) with the major components of the composting facility labeled and dimensioned, must be submitted to the Department.

D. Background Information

1. Notwithstanding the provisions of § 8.5(A) of this Part, an owner or operator of a leaf and yard waste composting facility shall be considered by DEM to be in compliance if, within ninety (90) days of the effective date of this regulation, such owner or operator has submitted to the Department the following information with respect to such facility:

a. Name, business address, and business telephone number of the facility's owner and the owner of the land on which the facility is located;

b. Location of the facility (address);

c. Acreage of the property on which the facility is located;

d. Volume of leaves and/or yard waste composted, or expected to be composted, annually;

e. Acreage of area used, or to be used, for a composting pad, leaf and/or yard waste processing activities, and storage of leaf and/or yard waste compost;

f. Name of individual to be the primary contact with the Department;

g. Name, business address, and business telephone number of any engineer or other consultant employed or retained to design and/or oversee construction and/or operation of the facility.

E. Operating Plan

1. An operation and maintenance plan setting forth, but not necessarily limited to:

a. A description of any agreements affecting the control, use or operation of the facility;

b. Operating days and hours;

c. Procedures and processes for leaf and/or yard waste composting;

d. Description of prevailing winds during the various seasons of the year with respect to impacts on off-site receptors and procedures to control odors, dust, vectors, and litter;

e. Provisions for daily record keeping of weather conditions, wind direction, ambient air temperature, odor, dust, vector and litter issues, condition of compost pad, windrow monitoring and corrective actions needed and taken;

f. Personnel and duties;

g. Erosion, sedimentation and surface drainage control measures;

h. Methods and procedures for fire prevention and control;

i. End uses or markets for leaf and/or yard waste compost generated at the facility;

j. A plan for quality assurance/quality control of finished compost, which also includes compost sampling and analysis details;

k. A plan identifying the disposal method for waste received, in the event that the waste is contaminated (or becomes contaminated) with prohibited materials such as oil, hazardous waste, etc. or if the waste cannot be placed into a composting process in an acceptable time period per § 8.6(R) of this Part.

F. Additional Information

The applicant shall submit such additional information relevant to the facility that the Department deems appropriate.

G. Re-Registration

1. Each owner or operator of a registered leaf and yard waste composting facility shall re-register such facility with the Department, if any of the following occurs:

a. The annual volume of leaves and yard waste to be composted at the facility increases by twenty (20) percent of the annual volume indicated in the current registration;

b. The design of the facility, or procedures or processes for leaf and yard waste composting are modified;

c. There is a change in the identity of the facility's owner or operator or site location.

H. Registration Suspension or Revocation

The Department may suspend or revoke a facility's registration due to owner/operator failure to comply with applicable Parts of this Title.

8.6 Large-Scale Leaf and Yard Waste Composting - Operating Standards

A. General

§ 8.6 of this Part and its sub-paragraphs apply to leaf and yard waste composting facilities that will have on site (at one or more times during their existence) greater than 600 cubic yards of the combination of collected uncomposted feedstock and feedstock that has been placed into a composting process, excluding finished compost. Such leaf and yard waste facilities shall meet all

requirements set forth in this rule in addition to the General Operating Standards in § 1.5 of this Subchapter.

B. Siting and Buffers

1. No leaf and yard waste composting facility shall be operated at any location unless at such location:

a. There are at least two hundred (200) feet between the waste staging/storing, processing, curing, and finished compost storage areas of the facility and any surface water.

b. There are at least one hundred (100) feet between the waste staging/storing, processing, and curing areas of the facility and the boundaries of the property at which the facility is located.

c. There are at least two hundred fifty (250) feet between the waste staging/storing, processing, and curing areas of the facility and any occupied building other than an owner occupied building on the property at which the facility is located, except for facilities employing passive windrow composting, where such distance shall be five hundred (500) feet.

d. There are at least two (2) feet vertically between the ground surface of the property at which the facility is located and the seasonal high groundwater table.

e. There are at least three (3) feet vertically between the ground surface of the property at which the facility is located and the bedrock.

f. There are at least two hundred (200) feet between the waste staging/storing, processing, curing, and finished compost storage areas of the facility and any bedrock public wells.

g. There are at least two hundred (200) feet separation from private wells and one thousand (1000) feet separation from gravel pack public wells (relative to the distance between the waste staging/storing, processing, curing and finished compost storage areas of the facility and such wells). The composting site shall not be located on a public well field.

h. Buffers, such as trees, walls, fences, natural or manmade topographic features shall be installed to mitigate noise, dust, odors, litter and other potential impacts on neighboring properties.

i. The composting site is not located on a wellhead protection area (as defined in the Department's Groundwater Quality Rules, Part

150-05-3 of this Title, delineated consistent with the wellhead protection program for a public well. If the owner or applicant seeks a variance from this requirement, then the Department will require demonstration that leachate (if any) from the composting facility will not impact on the groundwater supply, under terms of the variance.

j. A leaf and yard waste composting facility which is located on top of a solid waste disposal area closed in accordance with Part 2 of this Subchapter and 40 C.F.R. § 258.60 (2017), incorporated in § 1.3 of this Subchapter, shall have composting conducted on a pad to prevent disruption of the landfill cap and underlying waste. The pad shall be constructed of well-compacted, well-drained soil. It shall be no less than two (2) feet thick and sloped at two - five percent (2-5%) to promote surface drainage. The pad shall be constructed in addition to the minimum two (2) feet of final cover soil required at all closed solid waste disposal areas.

C. Endangered Species

No facility or practice shall cause or contribute to the taking of any endangered or threatened species pursuant to the Endangered Species Act, 16 U.S.C. § 1531 *et seq*. (2017) and/or the regulations adopted to implement such Act, as is or as amended. The facility or practice shall not cause or contribute to the destruction or adverse modification of the critical habitat of endangered or threatened species.

D. Water Pollution

1. Groundwater: A minimum of two (2) feet of soil is required between the lowest level of the compost pile and the highest water table level established during the seasonal high groundwater table period determined by the Department in accordance with the Department's Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems, Part 150-10-6 of this Title. In addition, a minimum of three (3) feet of soil is required between the highest level of bedrock and the lowest level of the proposed composting surface. If the applicant seeks a variance of these separation distances, the Director may require the installation of an impermeable liner system or other means to prevent leachate from reaching the groundwater.

2. Water Supply: Leaf and yard waste composting sites are prohibited from being located on public well fields. Minimum setbacks from the waste staging/storing, processing, curing and finished compost storage areas to wells shall be as follows:

a. One thousand (1000) feet from gravel packed public wells;

b. Two hundred (200) feet from bedrock public wells.

c. Two hundred (200) feet from private wells.

3. Surface Water: Leaf and yard waste composting activities shall not be within or impact any freshwater wetlands as defined by R.I. Gen. Laws § 2-1-18 *et seq*. Composting activities shall not occur on a site that is not in compliance with R.I. Gen. Laws § 2-1-18 *et seq*. and the Rules and Regulations promulgated pursuant to that Act.

E. Air Standards

1. Any composting facility shall not violate the following:

a. State implementation plans approved or promulgated pursuant to R.I. Gen. Laws Chapter 23-23; the Rules and Regulations to implement such Chapter, and any applicable provisions of the Clean Air Act, 42 U.S.C. § 7410 (2017).

b. The Rhode Island Clean Air Act, R.I. Gen. Laws Chapter 23-23 and the Rules and Regulations promulgated thereunder.

c. Odors: The composting facility shall not emit or cause to be emitted into the atmosphere any air contaminants or combination of air contaminants which creates an objectionable odor beyond the property line of said facility. Odor evaluations shall be conducted by Department personnel to determine if an odor is objectionable by taking into account its nature, concentration, location, duration and source.

F. Fire Protection

1. A composting site shall not pose a hazard to the safety of persons or property from fires. In addition, the following requirements must be met:

a. All composting sites shall submit site locator plans, site sketches, and operating plans to the local fire department for their review and notification so as to provide emergency service whenever called;

b. All composting sites and site equipment (dozers and front-end loaders) shall be equipped with fire extinguishers.

G. Safety Provisions

Composting facilities shall be designed, operated and maintained in such a manner as to protect the health and safety of users of the facility and personnel associated with the operation of the facility, and persons in close proximity to the facility.

H. Access

1. Time - The time of access to the facility by the public shall be limited to the hours of operation.

2. Site Access - Access to the site shall be adequate to permit orderly entrance and exit, even during inclement weather. Roads shall be adequate to allow access by firefighting equipment at all times.

3. Site Security - The site shall be designed with perimeter fencing, and with gate controls to prevent unauthorized access and dumping at the site and to control the off-site escape of litter.

I. Signs

1. Sign(s) shall be erected at the entrance to the facility which are clearly legible and visible, and which contain the following:

   a. Name of facility and operator;

   b. Emergency phone number;

   c. Restricted (prohibited) materials (if applicable);

   d. Operating hours and days open.

J. Operating Plan

A facility shall be operated in conformity with its approved operating plan.

K. Site Water Supply

On-site water supply shall be available to maintain proper moisture levels in the windrow. If no on-site water is available, then a water truck may be substituted for windrow watering only. Water used to maintain windrow moisture shall not adversely impact the finished compost.

L. Compost Thermometer

A compost thermometer, three (3) - four (4) feet in length, capable of reading between 0° - 200°F shall be available on-site to record temperatures.

M. Monitoring Requirements

1. A written record must be maintained and available for Department review of:

   a. Windrow temperatures (must be recorded at least twice per week);

b. Ambient air temperature at time of recording;

c. Weather conditions;

d. Odors (if detected);

e. Pile moisture conditions and site observations. (This requirement may be modified or waived with Department approval, provided satisfactory operating conditions have been maintained and demonstrated for a length of time satisfactory to the Department.).

N. Composting Pad

1. The composting pad must be designed to support heavy equipment;

2. The pad must be permeable enough to prevent ponding of surface water and firm enough to prevent ruts in all seasons;

3. Pads must be graded between a two (2) percent and five (5) percent slope;

4. Existing site soil that is not permeable enough to prevent standing water or firm enough to prevent ruts will require that a pad be constructed:

a. A composting pad will be constructed of bank run gravel or the equivalent,

b. The pad shall consist of a layer of at least twelve (12) inches of bank run gravel or the equivalent;

5. Impermeable pads may be approved, and such pads:

a. Must have systems for collection and management of run-off,

b. Must be designed to ensure that on-site drainage systems do not clog.

O. Drainage Control

1. A drainage system must be developed to prevent sediment or run-off water from migrating off-site;

2. Ground surface upgradient of the site must be prepared to prevent water seepage into composting and curing piles;

3. Drainage control measures must be designed to accommodate the net increases in run-off from a twenty-four (24) hour, twenty-five (25) year storm event;

4. Leaf and yard waste composting facilities shall not be located in one hundred (100) year flood plains, unless provisions have been made to prevent encroachment of flood waters onto the facility and approval has been obtained from the Office of Water Resources.

P. Windrows

Windrows shall be placed along the fall line of the composting pad (parallel to the slope of the pad). Windrow height and width shall be such that the windrow turning equipment used can mix all leaf and yard waste easily and thoroughly and in no case larger than twelve (12) feet in height and twenty-six (26) feet in width, and positioned so as not to allow water ponding between the windrows. Windrows shall also be positioned to allow for fire vehicle access.

Q. Waste Screening and Inspection

The owner or operator shall implement waste receiving area control procedures that provide for the screening and inspection of the in-coming waste stream to prevent the acceptance of prohibited or unauthorized waste types, and to remove undesirable materials prior to the initiation of composting, as provided in the approved operating plan.

R. Waste Handling and Operation

1. In no case shall leaf and yard waste be stored for a period longer than one (1) week before the wastes shall be watered, processed and formed into actively composting windrows. Material in plastic bags shall be debagged within one (1) week upon arrival at the site.

2. Grass clippings shall not be accepted at the site unless there is a sufficient quantity of carbonaceous materials (leaves, composted leaves, chipped wood, etc.) to mix with the grass. Mixing ratios shall be one (1) part grass clippings to a minimum three (3) parts carbonaceous material (by volume) unless otherwise approved by the Department.

3. Grass clippings shall be mixed with carbonaceous material and incorporated in the windrow within three (3) days of delivery. Windrow size and turning or aeration frequency shall be adjusted to continue aerobic composting and to prevent foul odors. Grass clippings shall not be accepted at compost sites employing the passive windrow method.

4. Brush shall be chipped or shredded before being placed in windrows, and brush must be chipped within one (1) week after arrival, unless otherwise approved by the Department. Chipped brush may be stored for approved time periods in designated areas in quantities and pile sizes approved by the Department.

5. Empty plastic bags shall be removed from the pad area and disposed properly. Trash receptacles shall be at the site to collect empty bags and miscellaneous trash removed from windrows during the composting process.

6. In no event shall a windrow contain materials and wastes for no more than a twelve (12) month period, (composting shall be completed within this time frame);

7. Moisture in the windrow shall be maintained in a manner that continues the composting process. The moisture level shall be maintained between forty (40) and sixty (60) percent by weight.

8. In the windrow and turn method, windrows shall be turned as often as is necessary to continue aerobic composting and to prevent odors. The internal temperatures (optimum temperature 100° - 140° F) of windrows may be used as an indicator of aerobic composting. Temperatures shall be monitored at least twice per week. Windrow height and width shall be such that the windrow turning equipment used can mix all leaf and yard waste and in no case larger than twelve (12) feet in height and twenty-six (26) feet in width.

9. In static aerated windrow composting, windrows shall be mechanically aerated as often as is necessary to continue aerobic composting and to prevent foul odors. Windrow height and width shall be such that the aeration equipment can properly aerate the leaf and yard waste.

10. Windrows shall be turned as often as is necessary to mitigate the dispersion of dust and/or any potential bio aerosols. Windrows must be moist and/or water sprayed during the windrow turning process. Additional measures may be required, as necessary, to protect workers or visitors from dust and bio aerosols.

S. Dust Control

The operator must take suitable measures at all times to control dust at every composting facility, access roads to the facility and all other areas related to the facility's operations. This may be accomplished by spraying small amounts of water over the dust producing area and/or by the application of suitable chemicals or paving materials on access roads.

T. Control of Litter

Measures must be taken to eliminate the scattering of refuse. The operator shall provide for routine maintenance and general cleanliness of all areas related to the composting facility's operation.

U. Compost Storage Area

1. Shall be no smaller than at least fifteen (15%) percent the size of the windrow composting area;

2. Curing time will be a minimum of one (1) month.

V. Compost Distribution

Compost product offered for distribution shall meet the requirements of R.I. Gen. Laws Chapter 2-22 "Rhode Island Soil Amendment Law" and those parameters outlined in § 8.12 of this Part.

8.7 Large-Scale Putrescible Waste Composting Facility – Registration Requirements

A. General Information

1. § 8.7 of this Part and its sub-paragraphs apply to putrescible waste composting facilities that will have on site (at one or more times during their existence) greater than 600 cubic yards of the combination of collected uncomposted feedstock and feedstock that has been placed into a composting process, excluding finished compost. Before constructing a composting facility and commencing putrescible waste composting, an owner or operator of a new putrescible waste composting facility shall register such facility with the Office of Land Revitalization and Sustainable Materials Management of the Department of Environmental Management (DEM) and obtain from the DEM a written approval that such registration is complete. An owner or operator of an existing putrescible waste composting facility shall register such facility with the Department.

2. The registration and one copy thereof shall be delivered personally or by mail to the Office of Land Revitalization and Sustainable Materials Management within the Department of Environmental Management.

3. It is the responsibility of the applicant to obtain all necessary permits or approvals required by federal, state and local laws and regulations. Cooperation within the Office of Land Revitalization and Sustainable Materials Management will not be construed as relieving the applicant of this obligation.

4. Agricultural Composting Facilities will be permitted through the Division of Agriculture of the Department of Environmental Management.

5. Backyard composting, as defined in § 1.5 of this Subchapter "General Requirements" is not subject to the Putrescible Waste Composting Facility Rules and Regulations, but may be subject to Department enforcement actions if best management practices acceptable to the Department are not followed.

6. The applicant shall also meet the general requirements in § 1.5 of this Subchapter.

B. Elements of Registration

1. The registration of a putrescible waste composting facility includes submittal to DEM the following:

a. Initial Investigation Plans in accordance with § 8.7(C) of this Part;

b. Background information in accordance with § 8.7(D) of this Part;

c. Operating Plan in accordance with § 8.7(E) of this Part;

d. Contingency Plan in accordance with § 8.7(F) of this Part;

e. Additional information, per § 8.7(G) of this Part.

C. Initial Investigation Plans

Copies of the latest United States Geological Topographic Map and the United States Department of Agriculture Soil Survey Map, with the site outlined, and a site sketch (using a tax assessor's map showing the property line) with the major components of the composting facility labeled and dimensioned, must be submitted to the Department.

D. Background Information

1. Notwithstanding the provisions of § 8.7(A) of this Part, an owner or operator of a putrescible waste composting facility shall be considered by the Department to be in compliance if, within ninety (90) days of the effective date of this regulation, such owner or operator has submitted to the Department the following information with respect to such facility:

a. Name, business address, and business telephone number of the facility's owner and the owner of the land on which the facility is located;

b. Location of the facility (address);

c. Acreage of the property on which the facility is located;

d. Volume of waste composted, or expected to be composted, annually;

e. Acreage of area used, or to be used, for a composting pad, waste processing activities, and storage of compost;

f. Name of individual to be the primary contact with the Department;

g. Name, business address, and business telephone number of any engineer or other consultant employed or retained to design and/or oversee construction and/or operation of the facility.

E. Operating Plan

1. An operating plan shall be submitted including all of the information listed below:

a. Specific ownership or leasing arrangement of the facility or any other agreements affecting control, use, or operation of the site;

b. Operating days and hours;

c. Provisions for limiting access;

d. Daily traffic flow to and from the facility including the number of trips by private or public collection vehicles and quantity of solid waste in each vehicle;

e. Weighing facilities (if any);

f. Procedures for unloading trucks, including frequency, rate and method;

g. Types of compostable material to be accepted with percentages of the total;

h. Description of the composition of putrescible wastes to be accepted, the anticipated quantity of each type of material, and how each will be handled at the site;

i. Provisions for the immediate composting of all putrescible wastes;

j. Detailed description of the composting method to be used and the proposed sequence of operation;

k. For the windrow systems, the windrow(s) construction including length, width and height;

l. Method of aeration of composting materials, including turning frequency or mechanical aeration equipment and aeration capacity;

m. For in-vessel composting systems, a process flow diagram of the entire process including major equipment and flow streams;

n. Description of any process monitoring during the composting process;

o. Composting time duration (time period from initiation of composting process to completion);

p. Time period of storage of finished compost prior to distribution;

q. Description of prevailing winds during various seasons of the year with respect to impacts on off-site receptors and procedures to control odors, dust, vectors (including gulls) and litter;

r. Provisions for daily record keeping of weather conditions, wind direction, ambient temperature, odor, dust, litter, gull, and vector issues, condition of composting pad, windrow monitoring and corrective actions needed and taken;

s. Personnel and duties;

t. Procedures to control erosion and sedimentation;

u. Surface drainage control measures;

v. Leachate treatment operations;

w. Equipment to be used on-site during operating hours;

x. Substitute equipment available;

y. Communication equipment available;

z. Fire control and prevention provisions;

aa. Winter operations;

bb. Provisions for compost utilization;

cc. Documented markets for finished compost;

dd. Provisions for the proper storage of compost;

ee. Quality assurance/Quality control of finished compost, which also includes compost (product) sampling and analysis details;

ff. Method for removal of finished compost from the site;

gg. Plan for disposal of finished compost that cannot be used in the expected manner due to poor quality or changes in market conditions; Also, a plan identifying the disposal method for waste received, in the event that the waste is contaminated (or becomes contaminated) with prohibited materials such as oil, hazardous

materials, etc. or if the waste cannot be placed into a composting process in an acceptable time period, per § 8.8(R) of this Part;

hh. Description of surface soil characteristics for the proposed site and depth to seasonal high groundwater and bedrock;

ii. Aesthetic considerations;

jj. Estimated life of composting facility.

F. Contingency Plan

1. The plan must address:

a. Action taken with respect to personnel and user safety;

b. On site personnel injury;

c. Fires;

d. Equipment breakdown;

e. Disposition of waste received that is not authorized by the Department to be composted at the facility (i.e. hazardous, medical waste);

f. Releases of hazardous or toxic materials;

g. Steps that will be taken to alleviate odors, groundwater contamination and other undesirable conditions.

G. Additional Information

The applicant shall submit such additional information relevant to the facility that the Department deems appropriate.

H. Re-registration

1. Each owner or operator of a registered putrescible waste composting facility shall re-register such facility with the Department, if any of the following occurs:

a. The annual volume or weight of the putrescible waste to be composted at the facility increases by twenty (20) percent of the annual volume or weight indicated in the current registration;

b. The design of the facility, or procedures or processes for putrescible waste composting are modified;

c. There is a change in the identity of the facility's owner or operator or site location.

I. Registration Suspension or Revocation

The Department may suspend or revoke a facility's registration due to owner/operator failure to comply with the Department's Rules and Regulations.

8.8 Large-Scale Putrescible Waste Composting Operating Standards

A. General

1. § 8.8 of this Part and its sub-paragraphs apply to putrescible waste composting facilities that will have on site (at one or more times during their existence) greater than 600 cubic yards of the combination of collected uncomposted feedstock and feedstock that has been placed into a composting process, excluding finished compost. Such putrescible waste composting facilities shall meet all requirements set forth in this rule in addition to the General Operating Standards, § 1.5 of this Subchapter.

2. The passive composting method is prohibited for composting putrescible wastes. The windrow and turn method, aerated static pile and in-vessel composting are acceptable methods for composting putrescible waste. Other methodology will be considered for approval pending Department review.

B. Siting and Buffers

1. No putrescible waste composting facility shall be operated at any location unless at such location:

a. There are at least two hundred (200) feet between the waste staging/storing, processing, curing, and finished compost storage areas of the facility and any surface water.

b. There are at least one hundred (100) feet between the waste staging/storing, processing, and curing areas of the facility and the boundaries of the property at which the facility is located.

c. There are at least two hundred fifty (250) feet between the waste staging/storing, processing, and curing areas of the facility and any occupied building other than an owner occupied building on the property at which the facility is located.

d. There are at least three (3) feet between the ground surface of the property at which the facility is located and the seasonal high groundwater table.

e. There are at least five (5) feet between the ground surface of the property at which the facility is located and the bedrock.

f. There are at least two hundred (200) feet between the waste staging/storing, processing, curing, and finished compost storage areas of the facility and any bedrock public wells.

g. There is at least a two hundred (200) foot separation from private wells and a one thousand (1000) foot separation from gravel pack public wells (relative to the distance between the waste staging/storing, processing, curing and finished compost storage areas of the facility and such wells).

h. The composting site is not located on a public well field.

i. Buffers, such as trees, walls, fences, natural or manmade topographic features shall be installed to mitigate noise, odors, litter and other potential impacts on neighboring properties.

j. The composting site is not located on a wellhead protection area (as defined in the Department's Groundwater Quality Rules, Part 150-05-3 of this Title), delineated consistent with the wellhead protection program for a public well. If the owner or applicant seeks a variance from this requirement, then the Department will require demonstration that leachate (if any) from the composting facility will not impact on the groundwater supply, under terms of the variance.

k. A putrescible waste composting facility which is located on top of a solid waste disposal area closed in accordance with Rhode Island Department of Environmental Management Rules and Regulations for Solid Waste Management Facilities and Organic Waste Management Facilities, Part 1 of this Subchapter and 40 C.F.R. § 258.60 (2017), shall have composting conducted on a pad to prevent disruption of the landfill cap and underlying waste. The pad shall be constructed of well-compacted, well-drained soil. It shall be no less than two (2) feet thick and sloped at two - five percent (2-5%) to promote surface drainage. The pad shall be constructed in addition to the minimum two (2) feet of final cover soil required at all closed solid waste disposal areas.

C. Endangered Species

No facility or practice shall cause or contribute to the taking of any endangered or threatened species pursuant to the Endangered Species Act, 16 U.S.C. § 1531 *et seq*. (2017) and/or the regulations adopted to implement such Act, as is or as amended. The facility or practice shall not cause or contribute to the destruction or adverse modification of the critical habitat of endangered or threatened species.

D. Water Pollution

1. General

a. No putrescible waste composting facility shall be operated so as to cause or to be likely to cause pollution of the ground waters or surface waters of the State;

b. In determining whether said operation of putrescible waste composting facility is causing or is likely to cause pollution of the ground waters or the surface waters of the State, the Director may consider the following factors:

(1) Groundwater monitoring results show significant statistical increases in excess of any one or more of the parameters as delineated in § 2.3.26 of this Subchapter "Constituents for Detection Monitoring",

(2) Groundwater monitoring results from the facility show detection of one or more of the parameters as delineated in § 2.3.27 of this Subchapter "List of Hazardous Inorganic and Organic Constituents",

(3) Topography, hydrology and geology of the area encompassing the composting facility indicate a likelihood of contamination of a surface water body or groundwater,

(4) Groundwater leaving the licensed area is likely to impact private or public drinking wells down gradient from the facility,

(5) Groundwater leaving the licensed area is likely to impact groundwater used for commercial or industrial processes down gradient from the facility,

(6) Facility violates a groundwater standard,

(7) An actual or potential discharge into any surface water.

c. In the event that the Director finds that the operation of a composting facility is causing or is likely to cause pollution of the groundwaters or the surface waters of the State, the Director may evaluate the operation of said putrescible waste composting facility and require such measures as are necessary to abate, eliminate or avoid such pollution, including, but not limited to, the following:

(1) Groundwater removal and treatment,

(2) Contaminated groundwater encapsulation,

(3) Alternate sources of drinking water to impacted individuals,

(4) Closure of the facility.

2. Surface Water

No composting activities shall be conducted within or impact any freshwater wetlands as defined by R.I. Gen. Laws § 2-1-20 *et seq*. Composting activities shall not occur on a site that is not in compliance with R.I. Gen. Laws § 2-1-20 *et seq*. and Rules and Regulations promulgated pursuant to that Act.

3. Groundwater

a. No composting facility shall be constructed where solid waste may be in direct contact with groundwaters of the State. A minimum of three (3) feet of soil is required between the highest water table level and the lowest level of the composting pile. The Director may require a greater separation if the three (3) feet minimum will not ensure protection of public health.

b. No composting facility shall be located within two hundred (200) feet of an existing bedrock public water supply well and within one thousand (1000) feet from a gravel pack public well. The Director may require a greater separation if these minimum separation distances will not ensure protection of public health.

E. Air Standards

1. Any composting facility shall not violate the following:

a. State implementation plans approved or promulgated pursuant to R.I. Gen. Laws Chapter 23-23, as is or as amended; the Rules and Regulations to implement such Chapter, and any applicable provisions of the Air Act, 42 U.S.C. § 7410 (2017), as are or as amended.

b. The State Air Pollution Control Act, and the Rules and Regulations promulgated thereunder.

c. Odors: The composting facility shall not emit or cause to be emitted into the atmosphere any air contaminants or combination of air contaminants which creates an objectionable odor beyond the property line of said facility. Odor evaluations shall be conducted by Department personnel to determine if an odor is objectionable by

taking into account its nature, concentration, location, duration and source.

d. The composting facility must establish an odor-complaint hot line. The facility must have the ability to receive all calls on a twenty-four (24) hour per day basis. (An answering machine may be used for this purpose.) Complaints received during normal operating hours must be investigated and responded to immediately. Complaints received during times when the facility is closed must be investigated and responded to within twelve (12) hours from when the complaint is received. All complaints received by the facility and actions taken in response to the complaints must be reported to the Department within twenty-four (24) from when the complaint was received. The facility operating plan must indicate how the odor complaint hot line will be established and what actions will be taken when odor complaints are received. Odor complaint forms must be created and maintained by the facility.

F. Fire Protection

1. A facility shall not pose a hazard to the safety of persons or property from fires. In addition, the following requirements must be met:

a. All composting facilities shall submit site locator plans, site sketches, and operating plans to the local fire department for their notification and review so as to provide emergency service whenever called;

b. All composting equipment (dozer, front-end loaders and other equipment) shall be supplied with fire extinguishers.

G. Safety Provisions

Composting facilities shall be designed, operated and maintained in such a manner as to protect the health and safety of users of the facility and personnel associated with the operation of the facility, and persons in close proximity to the facility.

H. Access

1. Time: Access to the putrescible composting facility shall be limited to the hours in which authorized operating personnel are on duty at the facility. Additional time shall be designated before and after normal operating hours to allow for "housekeeping chores". There shall be no access to the facility for the acceptance of solid waste during this additional time.

2. Site Access - Access to the site shall be adequate to permit orderly entrance and exit, even during inclement weather. Roads shall be adequate to allow access by firefighting equipment at all times.

3. Site Security: There shall be gates at all entrances to facilities which will prevent access to the facility, except at such times as permitted under § 8.8(H)(1) of this Part. These gates should be locked when the site is unsupervised. Fences will be required around the facility to limit unauthorized access and dumping.

I. Signs

1. There shall be erected at the entrance to the putrescible waste composting facility a sign, clearly legible and visible, which contains the following:

   a. Name of facility and operator,

   b. Emergency phone number,

   c. Restricted (prohibited) materials (if applicable),

   d. Operating hours and days open;

2. There must be adequate directional signs within the facility to direct drivers to the appropriate unloading area, assist in traffic control and to regulate speed within the facility.

J. Operating Plan

A facility shall be operated in conformity with its approved operating plan.

K. Site Water Supply

On-site water supply shall be available to maintain proper moisture levels in the windrows. If no on-site water is available, then a water truck may be substituted for windrow watering only. Water used to maintain windrow moisture shall not adversely impact the finished compost.

L. Compost Thermometer

A compost thermometer three (3) - four (4) feet in height, capable of reading 0° - 200° Fahrenheit must be available on site to record temperature.

M. Monitoring Requirements

1. A written record must be maintained and available for Department review of:

a. Windrow temperatures (must be recorded at least twice per week);

b. Ambient air temperature at time of recording;

c. Weather conditions;

d. Odors (if detected);

e. Pile moisture conditions and site observations. This requirement may be modified or waived, with Department approval, providing satisfactory operating conditions have been maintained and demonstrated for a length of time satisfactory to the Department.

N. Composting Pad

1. The composting pad must be designed to support heavy equipment;

2. The pad must be permeable enough to prevent ponding of surface water and firm enough to prevent ruts in all seasons;

3. Pads must be graded between a two (2%) percent and five (5%) percent slope;

4. Existing site soil that is not permeable enough to prevent standing water or firm enough to prevent ruts will require that a pad be constructed.

5. Composting pads must be constructed of bank run gravel or the equivalent,

6. The pad shall consist of at least a layer twelve (12) inches of bank run gravel or the equivalent;

7. Impermeable Pads may be approved, and such pads:

a. Must have a system for collection and management of run-off,

b. Must be designed to ensure that on-site drainage systems do not clog.

O. Drainage Control

1. The operator shall make provisions to have the composting site, including the compost pad, graded and provided with a drainage system to minimize surface water run-off onto and into the compost pad or windrows, to prevent erosion of the pad, to drain off rain water falling on the pad and to prevent the collection of standing water. Measures must be taken to prevent sedimentation associated with surface drainage from disturbed areas, and pads must be graded between two (2) and five (5) percent

slopes. In no case shall the grade of the compost pad exceed the operational requirements of windrows turning equipment.

2. In addition:

   a. A drainage system must be developed to prevent sediment or run-off water from migrating off site;

   b. Ground surface up gradient of the site must be prepared to prevent water seepage into compost and curing piles;

   c. Drainage control measures must be designed to accommodate the net increase from a twenty-four (24) hour, twenty-five (25) year storm event;

   d. Putrescible waste composting facilities shall not be located in one hundred (100) year flood plains, unless provisions have been made to prevent encroachment of floodwaters onto the facility and approval has been obtained from the Office of Water Resources.

P. Windrows

Windrows shall be placed along the fall line of the compost pad (parallel to the slope of the pad). Windrow height and width shall be such that the windrow turning equipment used can mix all yard waste easily and thoroughly and in no case larger than twelve (12) feet in height and twenty-six (26) feet in width, and positioned so as not to allow water ponding between the windrows. Windrows shall also be positioned to allow for fire vehicle access.

Q. Waste Screening and Inspection

The owner or operator shall implement waste receiving area control procedures that provide for the screening and inspection of the incoming waste stream to prevent the acceptance of prohibited or unauthorized waste types, and to remove undesirable materials prior to the initiation of composting, as provided in the approved operating plan.

R. Waste Handling and Operation

1. Unloading of Waste: The unloading of solid waste shall be controlled and restricted to an area such that the material can easily be incorporated into the putrescible composting facility.

2. Litter: Windblown refuse shall be eliminated or controlled by using fences or other comparable means. The putrescible waste composting facility shall be kept free from windblown refuse at all times.

3. Brush: Any brush accepted at a putrescible waste composting facility must be chipped within one (1) week after arrival, unless otherwise approved by the Department. Chipped brush may be stored for approved time periods in designated areas in quantities and pile sizes approved by the Department.

4. Putrescible wastes must be incorporated into the active composting process immediately upon arrival at the composting facility.

5. Grass clippings are to be incorporated into the windrows within three (3) days of delivery to the site.

6. Designated storage areas shall be provided for composting materials; said areas will minimize odors, run-off, and will not adversely impact the composting facility.

7. In no event shall a windrow contain materials and wastes for more than a twelve (12) month period, (composting shall be completed within this time frame).

8. Moisture in the windrow shall be maintained in a manner that continues the composting process. The moisture level shall be maintained between forty (40) and sixty (60) percent by weight.

9. In the windrow and turn method, windrows shall be turned as often as is necessary to continue aerobic composting and to prevent odors. The internal temperatures (optimum temperature 100° - 140°F) of windrows may be used as an indicator of aerobic composting. Temperatures shall be monitored at least twice per week. Windrow height and width shall be such that the windrow turning equipment used can mix all leaf and yard waste and in no case larger than twelve (12) feet in height and twenty-six (26) feet in width.

10. In static aerated windrow composting, windrows shall be mechanically aerated as often as is necessary to continue aerobic composting and to prevent foul odors. Windrow height and width shall be such that the aeration equipment can properly aerate the waste.

11. Windrows shall be turned as often as is necessary and/or any potential bioaerosols. Windrows must be moist and/or watered sprayed during the windrow turning process, Additional measures may be required, as necessary, to protect workers or visitors from dust or bio aerosols.

S. Dust Control

The operator must take suitable measures at all times to control dust at every composting facility, access roads to the facility and all other areas related to the facility's operations. This may be accomplished by spraying small amounts of

water over the dust producing area and/or by the application of suitable chemicals or paving materials on access roads.

T. Control of Litter

Measures must be taken to eliminate the scattering of refuse. The operator shall provide for routine maintenance and general cleanliness of all areas related to the composting facility's operation.

U. Vector Control

1. The facility shall not operate unless the on-site vector population is minimized utilizing techniques, approved by the Department that will protect public health.

    a. Conditions shall be maintained that are sanitary and therefore unfavorable for the harboring, feeding, and breeding of vectors;

    b. Control of insects and rodents, where needed, shall be effected by means of a program directed by a professional exterminator utilizing insecticides and/or rodenticides or other means approved by the Department;

    c. Gull control procedures shall be employed that meet the requirements of 1994 R.I. Pub. Laws Chapter 155.

V. Compost Storage Area

1. Shall be no smaller than at least fifteen (15%) percent the size of the windrow composting area;

2. Curing time shall be a minimum of one (1) month.

W. Operating Requirements Aerated Static Pile

1. Maximum height twelve (12) feet;

2. Maximum width twenty-six (26) feet;

3. Perforated PVC pipe used shall be a minimum four (4) inches diameter;

4. Porous substrate (wood chips, sawdust or other porous material);

5. Organic blankets shall be a minimum of six (6) inches (wood chips, compost, sawdust);

6. Blower fans used shall be centrifugal type.

X. In Vessel Composting

1. A professional engineer must submit design plans for this process;

2. A process flow design must be included;

3. A leachate collection system is required;

4. An impermeable pad is required.

Y. Static Aerated Composting System

1. Static aerated composting system shall be mechanically aerated as often as necessary to continue aerobic composting and to prevent foul odors;

2. Windrow height and width governed by windrow turning equipment;

3. Maximum height twelve (12) feet;

4. Maximum width twenty-six (26) feet.

Z. Communication

A suitable means of communication (telephone, two-way radio, etc.) shall be available at every putrescible waste composting facility.

AA. Compost Distribution

Compost product offered for distribution shall meet the requirements of R.I. Gen. Laws Chapter 2-22 "Rhode Island Soil Amendment Law" and those parameters outlined in § 8.12 of this Part.

BB. Closure Procedure

1. A facility must notify the Department at least three (3) months prior to the anticipated date that closure operations are to begin and must submit a closure plan for approval by the Department, prior to commencing closure operations.

2. After the closure plans have been fully implemented, the Department shall be notified so that an inspection may be made by Department personnel. A list of the deficiencies, if any, will be returned to the owner of the facility. A final inspection will be required after all deficiencies are corrected.

3. A professional engineer registered in the State of Rhode Island must certify that the facility is properly closed in accordance with the approved closure plan.

8.9 Mixed Solid Waste Composting Facility License Requirements

A. General Information

1. A mixed solid waste composting facility is not eligible for a registration. No person shall construct or operate a mixed solid waste compost facility unless said person has received a license approved by the Director to construct and operate a mixed solid waste compost facility. In addition to meeting the general requirements set forth in Solid Waste Regulation No. 1, Part 1 of this Subchapter, each applicant for a license to construct and operate a mixed solid waste composting facility subject to this rule must contain the following:

    a. Radius plan, site plan, and construction and engineering plans and specifications, per §§ 8.9(C), (D), and (E) of this Part respectively;

    b. Construction inspection and quality assurance/quality control plan per § 8.9(F) of this Part;

    c. Narratives and information per §§ 8.9(G), (H), and (I) of this Part concerning:

        (1) Design and operation of proposed facility,

        (2) Geology, soils and groundwater,

        (3) Buffers, setbacks and odor/aesthetic considerations;

    d. Operating plan per § 8.9(J) of this Part;

    e. Finished compost storage and marketing plan per § 8.9(K) of this Part;

    f. Facility closure plan per § 8.9(L) of this Part.

B. Applicability and Exemptions

§ 8.9 of this Part applies to any person(s), corporation or other entity proposing to construct and/or operate a facility to produce compost from mixed solid waste or from mixed solid waste and other co-composting wastes, such as sewage sludge or septage. It does not apply to any person(s), corporation or other entity proposing to construct and/or operate a facility to produce compost from leaf and/or yard waste, from putrescible wastes, or from agricultural by-products as regulated in §§ 8.5 and 8.7 of this Part, or by the Division of Agriculture, respectively. Person(s) in households that intend to do backyard composting of waste generated on site and acceptable to the Department as specified in the definition of backyard composting in § 1.5(A)(22) of this Subchapter are exempt from § 8.9 of this Part. Backyard composting of sewage sludge or septage is not allowed.

C. Radius Plan

1. Radius plan(s) including all of the information listed below, shall be submitted. The radius plan(s) must be drawn to an appropriate scale adjusted to fit a standard size sheet and including all areas within a one (1) mile radius out from all property lines of the composting facility site. The required information includes:

    a. Zoning of all areas as required by § 1.7(E)(5) of this Subchapter;

    b. All buildings and dwellings (labeled with identification);

    c. All public and private water supplies (groundwater wells, reservoirs, etc.);

    d. All surface water courses (labeled with identification);

    e. All wetlands and extent of 100 year flood plain (if applicable);

    f. All sporting or recreational facilities, parks, conservation and management areas, wildlife refuses and historic sites (labeled with identification);

    g. All roads, bridges, railroads and airports (labeled with identification);

    h. All rights-of-way or easements for power lines, pipelines, etc.;

    i. Legal boundaries of the site, certified by a registered land surveyor in Rhode Island;

    j. North arrow;

    k. Legend.

D. Site Plan

1. Site plan(s), including all the information listed below, for all areas within the site, shall be submitted. The site plan(s) must be drawn to a minimum scale of one (1) inch to one hundred (100) feet (1"=100'), adjusted to fit on a standard size sheet. The required information includes:

    a. Legal boundaries of the site, which shall be certified by a registered land surveyor in the State of Rhode Island;

    b. An outlined area showing the proposed licensed area of the facility (if different from the legal boundaries of the site);

    c. Locations of proposed fences, gates, barriers, security stations and similar structures providing access control;

d. Access roads and on-site roads;

e. On-site vehicle traffic patterns;

f. Vehicle inspection areas (if any);

g. Parking areas (if any);

h. Weighing facilities (for in-coming vehicles with waste), (if any);

i. Buildings and structures related to the facility and dwellings;

j. Equipment storage areas (if any);

k. Any external areas for storing certain wastes or product (if any and if appropriate);

l. Power lines, pipelines and other utilities connected to the facility and rights of way;

m. Aboveground/Underground Storage Tanks (if any);

n. On-site groundwater wells, surface water courses, water supply areas or wetlands and public or private land conservation areas;

o. Locations of any monitoring wells or surface water monitoring locations (if any);

p. Locations of existing/proposed soil borings;

q. Locations of any on-site environmental control measures (e.g. stormwater control, run-on/run-off control, erosion and sedimentation control, etc.);

r. Labeling of any buffering features/buffer zones;

s. North arrow;

t. Legend;

u. Composting site designation (within or outside a wellhead protection area).

E. Construction and Engineering Plans and Specifications

1. Plans showing dimensions and details of the proposed waste receiving area, waste storage area, materials processing area, composting area, and product storage area and including plans for the building(s) to contain these activities;

2. Specifications for the design, construction and maintenance of the surface pads, for waste receiving, waste storage, material processing, composting, and product storage;

3. Specifications and plans (drawings) for materials processing and composting equipment/systems, including manufacturer's design and performance data for the selected equipment;

4. Specifications for site preparation, including clearing and grubbing;

5. Specifications and plans for odor control equipment;

6. Specifications and plans for other environmental control measures, e.g. stormwater control, run-on/run-off control, leachate and wastewater collection and treatment (if applicable), erosion and sedimentation control. Include the existing and proposed contours of the property at which the facility is located and of the properties adjacent to this property (at two (2) foot intervals);

7. Specifications for access and on-site roads, including load limits;

8. Specifications and plans for measures to limit access, e.g. fences, gates, security stations or other measures;

9. Plans showing utilities to be installed on-site, points of usage and point of service connections off-site;

10. Specifications for any aesthetic measures;

11. Specifications for fire prevention, suppression and control systems.

F. Quality Assurance/Quality Control Plan

A construction inspection, QA and QC plan showing a detailed inspection schedule and inspection details for construction completed at the site.

G. Description of Design and Operation of Facility

1. A descriptive overview (summary) of the entire operating process from reception of waste at the facility to completion of composting, including pre-processing activities, materials processing including recycling (if any), composting and post-composting activities (if any), such as screening and refining;

2. A process flow diagram of the entire process in § 8.9(G)(1) of this Part, that takes into account any manual steps, as well as mechanical or automated steps, and includes a total mass balance and accounts for all flow streams;

3. A description overview (summary) of the equipment employed in the entire process in § 8.9(G)(1) of this Part, including information on the function and capacity of each item of equipment;

4. Discussion of number of materials processing/composting systems in service during normal operating conditions and capacity of each system as well as discussion of any stand-by systems, if any.

H. Geology, Soils and Groundwater

1. A copy of the map of the soil survey in Rhode Island (map published by USDA Soil Conservation Service) with an outline of the proposed composting site clearly marked and an accompanying description (from the soil survey) of the soil classification and characteristics.

2. The results of soil borings, submitted in boring logs which shall contain the following information for each boring:

   a. Date, method of boring, and location of boring;

   b. Depth of the maximum elevation of the groundwater table (to be measured at a minimum of twenty-four (24) hours after the boring is taken;

   c. Soil description - A detailed soil mapping to a depth of four (4) feet must be submitted for each boring and the information shall include:

      (1) Color of each horizon;

      (2) Texture of each horizon;

      (3) Depth of each horizon;

      (4) Depth to mottles (if any);

      (5) Amount of coarse fragments (if any);

      (6) Depth to bedrock (if encountered);

      (7) Consistence or relative density;

      (8) Slope.

3. The number of borings required shall be determined by the Department, after review of the application. All borings shall be driven to a minimum depth of twenty (20) feet below the proposed compost pad elevation or to refusal. Split spoon samples shall be collected at a minimum of five (5) foot intervals and a soil description (per above) shall be provided for each

split spoon sample. The boring(s) shall be located to give the best indications of sub-surface conditions for the whole site. The groundwater table elevation determination shall be made when the water table is highest; this usually occurs during the months of January through April and specific dates may be determined on a yearly basis by the Department.

4. A groundwater survey showing the maximum groundwater elevations, the direction of groundwater flow and an estimation of the rate of flow (including calculations) shall be submitted.

I. Buffers, Setbacks and Odor/Aesthetic Considerations

1. Discussion of existing and proposed buffers, relative to adjacent properties;

2. Discussion of locations and distances of closest occupied buildings/residences off-site;

3. Discussion showing compliance with § 8.10(Q) of this Part, relative to set-back/buffer requirements;

4. A description of the prevailing winds during the various seasons of the year, with respect to impact of odors on off-site receptors;

5. Air flow modeling (if any) of the proposed site to project odor impact of the planned facility on off-site receptors;

6. A description of the air emission collection and control technology and all odor control systems;

7. Description of any aesthetics to be included in the proposed facility/site.

J. Operating Plan

1. An operating plan shall be submitted, including information on all of the numbered sections below. The minimum requirement for information to be provided is outlined in each section. The duration of the operating plan shall equal that of the license. The operating plan shall be reviewed by the applicant prior to license renewal and any changes to such plan shall be submitted to the Department for approval at that time.

2. The applicant must comply with the regulations within the following rules: "Mixed Solid Waste Composting Facility Design Standards" per § 8.10 of this Part, and "Mixed Solid Waste Operating Standards", per § 8.11 of this Part.

a. Operating Rates and Design Capacities

(1) For each type of solid waste input (mixed solid waste, co-composting waste (if applicable), bulking agent (if applicable), etc.), the expected near-term and projected long-range daily amount received by the facility (tons/day or cubic yards/day) and any other seasonal variations in quantities of each type.

(2) The near-term and projected long-range annual total solid waste received by the facility (tons/year or cubic yards/year),

(3) Near-term and projected long range waste processing rate at the facility (tons/day or cubic yards/day).

(4) Rated processing capacity of the facility's equipment, i.e. peak capacity for processing the mixed solid waste input (tons/day or cubic yards/day).

b. Operating Hours

(1) Naming of the days of the week and the time intervals (exact hours) on each of these days, that the facility will be open to receive waste.

(2) The time intervals (exact hours) on each day that the facility will be in operation, to include hours open to the public, as well as hours for other facility activities.

(3) Description of operating shifts, including number of shifts and time intervals (hours) for each shift (if applicable).

(4) Discussion of any seasonal variations in the schedule, including planned facility shut-down periods (if any), holidays when the facility will be closed (if applicable), etc.

c. Provisions for Limited Access - Discussion to include the following:

(1) Normal access road(s) into the facility and egress road(s) from the facility.

(2) Emergency access road(s), if any, into the facility or other provisions for access, by police, firemen, rescue, medical, etc.

(3) Security equipment and location including physical description of any fencing around the facility, physical description of barriers or gates at inlet/egress points, and any security personnel stations.

(4) Any natural land features, which prevent access to the facility.

(5) Security surveillance, including security personnel work schedules.

d. Types of Refuse to be Accepted

(1) Types and sources of solid waste in the incoming mixed solid waste and any variation over time, including seasonal variations.

(2) Discussion of suitability of the waste for composting efforts.

(3) Specification of any prohibited wastes that will not be accepted by the facility.

(4) Details of sign(s) at the facility entrance, which mention prohibited materials.

e. Types of Composting Additives, Seed Materials, Bulking Agents, Nitrogen Source, or other Amendments (if any):

(1) Description of additives and/or seed materials (if any) to be used in the composting process, including quantity, quality, and frequency of use and discussion of issues relative to impact on health, safety, or the environment.

(2) Type, source and quality of any bulking agent, nitrogen source or other amendment (if any).

(3) If sewage sludge or septage is to be co-composted, a detailed description of the source and quality of the sewage sludge or septage including any seasonal variations in its quality.

(4) Description of any expected recycling of bulking agent or compost within the facility (if any).

f. Waste Analysis Plan

(1) A description of a waste to be received and waste to be processed, to determine the quality of this waste and to demonstrate its suitability for processing and composting.

(2) If sewage sludge or septage is to be co-composted, the details of the sampling and testing plan, including parameters in the analysis.

g. Traffic Patterns

(1) Description of on-site road network serving in-coming and out-going vehicles including road surfacing and load-bearing capacity.

(2) Anticipated daily traffic flow, including specification of expected vehicle types, waste capacity, number and frequency of vehicles entering and leaving the facility.

(3) Traffic flow patterns on site.

(4) Traffic control measures on site, including directional signs, traffic lights, speed control measures, etc.

(5) Parking and unloading areas and their vehicle capacities.

h. Weighing Facilities (if any)

(1) Physical description and procedures for weighing or measuring in-coming waste.

(2) Details of information to be recorded relative to in-coming vehicles carrying solid waste.

(3) Details of equipment and procedures to be used relative to information recording and information storage.

i. Waste Inspection and Screening Procedures

(1) A description of the waste inspection and screening procedures used to assure that incoming waste accepted by the facility is consistent with the operating plan, that the recyclable materials content of each load of incoming waste is in compliance with the Subchapter 20 Part 1 of this Chapter, Rules and Regulations for Reduction and Recycling of Commercial and Non-Municipal Residential Solid Waste and Subchapter 20 Part 2 of this Chapter, Rules and Regulations for Reduction and Recycling of Municipal Solid Waste, and such that unsuitable waste that is received is separated from waste to be composted.

(2) Location of the waste inspection and screening personnel.

(3) An overview of the plan used to train the waste inspection and screening personnel.

(4) A description of any equipment or devices used to screen in-coming wastes on vehicles.

j. Waste Unloading Procedures

Procedures for unloading waste hauling vehicles, (including estimated frequency, rate and method) and a description of the waste unloading and receiving area including size and capacity to receive waste.

k. Compostable Waste Storage

(1) A description of the storage facility for compostable solid waste, including the storage capacity (tons or cubic yards).

(2) The schedule for initiation of processing of this waste, following receipt of this waste at the facility.

l. Storage and/or Handling of Composting Additives, Seed Materials, Bulking Agents or Other Amendments

(1) A description of the storage facilities for each of the items (if applicable), including the storage capacity.

(2) If the facility accepts sewage sludge or septage, for co-composting, a discussion of the expedited initiation of co-composting of this waste and any other procedures to prevent odor problems.

m. Bulky Waste, Special Wastes, and Other Non-compostable and Non-recyclable or Oversized Waste Handling Procedures,

(1) A description of the methods employed to separate out these wastes from the in-coming waste stream, where applicable.

(2) A description of the storage facilities and storage capacities for each of these types of solid waste, where applicable.

(3) The schedule for removal of these wastes from the facility and the name(s) and location(s) of the disposal sites for these wastes.

n. Prohibited Waste Handling and Disposal

(1) Procedures to be employed if prohibited waste is observed, upon inspecting the in-coming waste.

(2) A description of the storage area and capacity for prohibited waste, including any prohibited solid waste and hazardous waste that have been unloaded at the facility. The Plans shall also include the schedule for removal of these wastes from the site and disposal sites and locations for each of these types of wastes.

o. Recyclables Handling Procedures (if applicable)

(1) A description of the recyclables separation program (if any), including a discussion of the equipment and methods employed for removing and recovering recyclables, prior to composting.

(2) A list of the recyclables that are recovered.

(3) A description of the storage facilities and storage capacities for each of the recyclables (if applicable).

(4) A discussion of markets for the recyclables and the name(s) and location(s) for disposition of these recyclables.

(5) The schedule for removal of these recyclables to off-site recycling facilities.

p. Composting Procedures

(1) Description of any preliminary pre-composting steps such as measuring, shredding, size reduction, mixing, screening, proportioning and watering, including discussion of any equipment employed.

(2) Discussion of use of any additives, seed materials, bulking agents, addition of nitrogen sources, or other compost amendments, if applicable.

(3) A detailed description of the composting method to be used and the proposed sequence of operations and detention times for each phase of the composting process, including refining of final product, if applicable.

(4) The proposed duration of the process from initial composting to final product, including decomposition, cooling, stabilization, curing and refining, where applicable.

(5) Discussion of methods and conditions maintained to achieve PFRP requirements [per § 8.11(N)(5) of this Part].

(6) Details of methods employed to maintain aerobic conditions during composting, along with proper moisture and temperature.

(7) Method of aeration, including turning frequency or mechanical aeration equipment and aeration capacity and method of regulating airflow.

(8) Details and schedules for mixing and blending of wastes during active composting.

(9) If the windrow and turn method or the aerated static pile method is employed, the methods used in constructing the windrow or piles, the equipment employed and proposed dimensions of these windrows or piles.

(10) A QA/QC plan for monitoring the compost process including, but not limited to the location of temperature probes and the frequency of monitoring, moisture monitoring and its frequency, and air flow monitoring and control.

q. Procedures for Operation

During Inclement Weather and Winter Operations Discussion of special precautions or procedures for operation during wind, heavy rain, snow, freezing conditions or other severe weather.

r. Residue Handling, Storage, and Disposal

(1) A description of the method of separation of residue from compost, if applicable.

(2) A description of the physical and chemical composition of the residue (non-compostables and over-size material) resulting after the composting process.

(3) Description of the storage facility area and storage capacity for this residue, if stored prior to disposal.

(4) The schedule for off-site disposal of this residue and the name(s) and location(s) of the disposal sites.

s. Surface Water/Stormwater Management and Erosion/Sedimentation Control

(1) A description of any procedures, structures, or equipment (if any) to prevent run-on and run-off at the facility and

description of stormwater control measures and surface drainage control measures (if any).

(2) A description of erosion and sedimentation control measures (if any).

t. Leachate and Wastewater Management, Disposal and Groundwater/Surface Water Protection

(1) A description of the method to collect and control leachate and wastewater from the facility.

(2) Discussion of treatment of leachate and wastewater (if applicable) and description of the method of disposal of leachate and wastewater.

(3) Discussion of any measures taken to protect groundwater and surface water.

u. Odor Control

(1) Discussion of equipment and operating methods and procedures to minimize, manage, and monitor odors and achieve proper odor control.

(2) Plans detailing corrective action in the event of odor complaints.

(3) Discussion of details relative to establishing and maintaining an odor control hot line.

v. Facility Housekeeping Procedures

(1) Procedures to prevent and control vectors, litter and dust at the facility.

(2) Discussion of routine housekeeping procedures before and after public hours (hours open to the public to receive waste).

w. Facility Inspection and Maintenance Plan

(1) Summary of the facility inspection plan including the items to be inspected routinely and their schedule from inspection.

(2) Summary of routine maintenance procedures on items to undergo routine maintenance and their maintenance schedule.

(3) Summary of corrective actions to be taken in the event of breakdown of significant equipment.

x. Outline Operations and Maintenance Manual

A summary of the topics to be included in the facility's operation and maintenance manual.

y. Personnel

(1) An organizational/manning chart for the facility.

(2) Duties and responsibilities for each facility job position.

(3) The staffing provided for each operating shift, including both operational and maintenance activities.

(4) A description of procedures, structures or equipment used at the facility to prevent operational hazards, including required personnel protective equipment.

(5) A summary of the personnel training program, which addresses the specific training, needs to operate and maintain this composting facility.

z. Fire and Explosion Prevention, Suppression and Control

(1) Description of precautions and procedures used to prevent ignition or explosion of wastes or waste by-products.

(2) Discussion of fire suppression and control measures, including source, quantity and location of available water and other firefighting materials and equipment that are on-site.

(3) Contingency fire protection in event of a water shortage or emergency.

aa. Emergency Contingency Plans

(1) Contingency operations plan in event of receipt of hazardous waste.

(2) Emergency response plan in event of significant fire or an explosion.

(3) Plans detailing corrective action in the event of groundwater contamination or chemical spills.

bb. Substitute Processing/Disposal/Transfer

(1) Discussion of facility alternate or back-up standby equipment (if any), in the event of primary equipment failure.

(2) Designation of licensed disposal site for transfer of in-coming waste in event of emergency at facility (equipment failure, power outages, natural disaster, fire, etc.) which prevents normal operation at the facility.

(3) A plan identifying the disposal method for compostable waste received, if the waste is contaminated (or becomes contaminated) with prohibited materials, such as oil, hazardous waste, etc. or is not placed into a composting process in an acceptable period of time, per § 8.11(l) of this Part.

cc. Communication Requirements

(1) Description of the types and location of communication equipment throughout the facility.

(2) Description of communication networks (internal and external).

dd. Utilities

(1) Discussion of utilities that will be connected to the facility and in operation at the facility.

(2) Description of back-up power supply at the facility.

ee. Record-Keeping

A summary of the records that will be retained at the facility.

K. Compost Storage and Marketing

1. This rule applies to compost produced in mixed solid waste composting facilities.

2. Storage Procedures - A description of the storage facilities and storage capacities (tons or cubic yards) for compost produced at the plant.

3. Anticipated Rate of Production of Compost - A plan for anticipated recovery rate of compost from the process (tons/day, cubic yards/day or other quantitative description).

4. Anticipated Compost Quality - A description of the anticipated quality of compost produced at the facility (see § 8.12(A) of this Part for Compost Quality Standards, for Class "A", Class "B" and Class "C" compost).

5. Compost Product Sampling and Testing - A QA/QC plan, which also includes compost (product) sampling and analysis details, for reasons of compost process quality control and product quality assurance.

6. Compost (Product) Uses:

    a. Plans for re-use, sale or marketing of the compost product,

    b. Discussion of proposed ultimate uses of compost sold or marketed.

7. Schedule for Removal of Compost (Product) From Facility and Distribution Plan

    a. Expected time frame for distribution of the compost (e.g. expected time elapsed after production of a batch of compost, prior to distribution),

    b. Method for removal of compost (product) from the facility,

    c. A plan for distribution of the compost;

8. Packaging and Labeling of Marketable Compost

    a. A description of any packaging (if any) to be employed with the distribution of the compost product,

    b. Details of the information to accompany the distribution of the compost product (e.g. copy of the label, information sheet, etc., relative to bagged or bulk compost).

9. Plan for Unmarketable or Sub-Quality Compost - The plan for use or disposal of compost product that cannot be sold or marketed in the expected manner, due to poor quality or changes in market conditions.

L. Facility Closure Plan

1. This rule applies to all mixed solid waste composting facilities, regardless of the status of their future operating plans, i.e., even if there is no plan to ever close the facility in the foreseeable future. Pursuant to the requirements set forth in § 1.7(J) of this Subchapter, this plan will include the following, at minimum:

    a. Planned or estimated year of proposed closure (if any).

b. Measures taken to remove all remaining solid waste or other wastes, recyclables (if any), composting waste, and compost product from the facility.

c. Methods to restrict access and prevent additional solid waste from being deposited at the facility, including physical description of any fences, gates and/or other barriers placed at the facility.

d. Discussion of impact of closure on legal boundaries of the site, changes in ownership and description of anything that affects the legal boundaries of the site.

e. Intended future use of the facility and property, following closure (immediate and long-term use).

f. A financial estimate of the costs to properly close the facility, (which shall include the use of third-party personnel and equipment to accomplish the closure). With respect to financial assurance (§ 1.7(J)(2)(b) of this Subchapter), the applicant must post financial assurance for the full amount of the closure cost estimate as a pre-condition for the issuance of a solid waste management facility license.

8.10 Mixed Solid Waste Composting Design Standards

A. General

All mixed solid waste composting facilities shall meet all the requirements set forth in this Part in addition to § 1.5 of this Subchapter (General Requirements).

B. On-site roads and access areas

1. All access and on-site roads shall be surfaced and constructed in accordance with heavy truck usage and for all-weather use.

2. Access and on-site roads shall be designed to prevent traffic back-ups and to permit orderly entrance and egress and maintain even traffic flow at all times when the facility is open to receive waste, even during periods of inclement weather.

C. Fencing and Gate Design

1. There shall be gates with locks at all entrances to the facility to prevent access except at times when authorized operating personnel are on duty;

2. Fencing shall be required around the perimeter of the facility to prevent unauthorized access and illegal dumping at the site and to provide containment of wind-blown litter (if any).

D. Emergency Access Provisions

Access and on-site roads shall have adequate space and shall be maintained to allow the unobstructed movement of fire-fighting vehicles and other emergency vehicles, equipment and personnel to the operating area of the facility.

E. Unloading and Sorting Area Design Features

1. The approach and unloading area shall be adequate in size and design to facilitate the rapid unloading of solid waste from vehicles and the unobstructed maneuvering of vehicles and other equipment;

2. The unloading area shall be adequate in size and capacity to manage the projected volume of incoming solid waste;

3. The unloading area shall be graded to prevent ponding of leachate from the waste;

4. The surface of the unloading area shall be constructed of impervious material, such as asphalt or concrete, capable of being cleaned by high-pressure water spray and equipped with drains, sumps or other means to collect liquids;

5. The tipping floor shall be under roof and fully enclosed with negative pressure air collection and treatment as needed, in order to avoid odor problems, to avoid windblown dust and debris and to prevent exposure to precipitation.

F. Incoming Mixed Solid Waste Storage Area Features

1. The facility shall have provisions for storage area(s) for incoming mixed solid waste, waiting to be processed. There shall be at least a capacity to store a volume of mixed solid waste equivalent to three (3) days worth of incoming waste, plus contingency storage, (to provide surge space for fluctuations in delivery volume and variations in composting operations, including processing equipment outages).

2. All unprocessed mixed solid waste storage areas shall be under roof and fully enclosed to avoid windblown dust and debris and to prevent exposure to precipitation.

3. The storage area shall be graded to minimize ponding of leachate from the waste piles.

4. The surface of the storage area shall be constructed of impervious material, such as sealed asphalt or concrete, to minimize liquid release into the groundwater under the site and to allow for cleaning with high-

pressure water spray. The storage area shall be equipped with drains, sumps or other means to collect liquids.

5. These storage area design features in §§ 8.10(F)(2) through (4) of this Part also apply to co-composting wastes, bulking agents or other amendments.

G. Design Provisions for Storage of Non-Compostable Waste

1. The facility shall have the capacity for proper handling, storage and removal of hazardous waste or other non-permitted waste delivered to or generated by the facility.

2. The facility shall have provisions for proper storage of bulky, solid waste if such waste is accepted by the facility and if such waste is not immediately removed off-site for recycling or disposal. Acceptable options including storing in an enclosed structure with a roof, in a covered contained box or other equivalent option.

3. The facility shall have provisions for segregation and proper storage of recovered recyclables, if recyclables are accepted as part of the incoming waste stream and if recovered recyclables are not immediately removed off-site for recycling. Acceptable options include storing in an enclosed structure with a roof, in a covered container box or other equivalent option.

4. The facility shall have provisions for segregation and proper storage of compost residues or other process non-compostable residues or foreign matter, if such residues or foreign matter are not immediately re-processed or removed off-site for disposal. Acceptable options include storing in an enclosed structure with a roof in a covered container box or other equivalent option and shall be located on an impervious surface such as sealed asphalt or concrete to prevent leachate releases into groundwater under the site.

5. If the facility separates out or recovers any other materials that do not fall into the above categories and furthermore will not be composted at this site, and will not be immediately removed off-site, then the facility must have provisions for segregation and proper storage of such materials. Acceptable storage options include storing in an enclosed structure with a roof, in a covered container box or other equivalent option, unless an alternate option is approved by the Department.

H. Up-Front Processing Area Design Features (Prior to Composting)

1. If the facility performs any up-front processing of the incoming waste stream (i.e., removal of foreign matter and non-compostables, recovery of recyclables, material size reduction or any other activities to improve the feed-stock to be delivered to the composting area), then these activities

shall be performed in an enclosed area, under a roof, to avoid windblown dust and debris and to prevent exposure to precipitation.

2. Floor surfaces shall be constructed of impervious material such as asphalt or concrete, to prevent liquid releases into the groundwater under the site.

I. Design Provisions for Operation During Inclement Weather and in Winter Season

Provisions for operation during wind, heavy rain, snow, freezing temperatures and other inclement weather conditions shall be provided.

J. Acceptable Composting Techniques (Technologies)

The Department shall consider composting by aerated static pile, by windrow method or by enclosed vessel (in-vessel), to be acceptable methods. Any other comparable method will be considered by the Department, subject to approval or denial. All methods shall be employed within an enclosed building.

K. Active Composting and Curing Area Design Features

1. There shall be sufficient space at the facility, to allow for the design volume (maximum capacity) being composted and cured at any given time;

2. All active composting and curing areas shall be under a roof and fully enclosed to avoid odor problems, to avoid windblown dust and debris, and to prevent exposure to precipitation and maintain proper moisture and biological process control;

3. All active composting and curing areas shall be located on impervious surfaces, such as sealed asphalt or concrete, to prevent leachate releases into the groundwater under the site;

4. Wherever active composting and curing areas occurs on a pad, the pad shall be graded to minimize ponding of leachate released from the composting piles;

5. There shall be drains, sumps or other means to collect leachate released during active composting and curing;

6. For facilities employing windrow composting techniques:

   a. The windrow shall be placed along the fall line of the composting pad, i.e., parallel to the slope of the pad,

   b. Windrow height and width shall be such that windrow turning equipment shall be able to mix the composting waste easily and

thoroughly and in no case larger than twelve (12) feet in height and twenty-six (26) feet in width,

c. Sufficient distances shall be maintained between adjacent windrows to allow maneuvering of heavy equipment during all depositing, turning and removal of compost and to allow for access by other vehicles, including fire-fighting equipment;

7. For facilities employing static aerated piles: The pile height shall be such that aeration equipment can perform proper aeration of the piles and in no case greater than twelve (12) feet in height.

L. Finished Compost Storage Area Design Facilities and Capacity Requirement

1. The facility shall have sufficient capacity for finished compost storage, not to exceed twelve (12) months production;

2. The finished compost storage area must be located on impervious surfaces, such as sealed concrete or asphalt, to prevent liquid release into the groundwater under the site;

3. The surface of the finished compost, storage area shall be graded to minimize ponding of liquids where compost is stored;

4. The storage area, through appropriate design features, management practices and/or location of the storage area, shall properly control any odors generated from the stored finished compost, if any, depending on stability of the compost and climatic conditions.

M. Surface Water/Stormwater Management Design Provisions and Erosion Control/Sedimentation Prevention

1. The facility shall not be constructed or operated in a one hundred (100) year flood plain area unless provisions have been made to prevent encroachment of flood waters upon the facility and approval has been obtained from the Office of Water Resources;

2. Stormwater management systems must be designed to control the water volume of a twenty-four (24) hour, twenty-five (25) year storm and to prevent run-on from entering the receiving, processing, composting, curing or storage area.

3. For any facility where run-off and erosion may be a problem, the design of the facility shall include erosion control measures.

N. Liquids Management Design Provisions

The facility shall have a liquids collection and removal system designed, constructed, maintained and operated to collect and remove liquid waste from the waste receiving and waste storage areas, waste composting and curing areas.

O. Fresh Air and Process Air Controls

1. In order to provide for proper worker health conditions and to avoid build-up of carbon dioxide, ammonia and fog, the facility must include appropriate design provisions to include one or more of the following options or a Department approved alternate option:

   a. Active ventilation of composting building enclosures to provide adequate fresh air makeup and appropriate treatment of building ceilings and other building structures to avoid or accommodate the accumulation of corrosive condensate;

   b. Collection of composting process air using negative aeration or air collection inside the pile so that it can be appropriately treated and not exhausted inside the building;

   c. Total enclosure of the composting waste such that all process air is contained within the enclosure during composting and such that the process air does not enter the building, but instead is separately handled and treated.

P. Odor Control Design Features

1. Facility design shall include provisions, such as bio filters, to limit the production of and/or off-site dispersal of odors;

2. Process air must be contained, collected, treated (deodorized) and dispensed to the atmosphere as necessary to avoid creating an odor nuisance from the incoming waste unloading/sorting area, the waste (feed-stock) storage area, the waste composting piles or chambers, the nitrogen source (supplementary material), storage area (if any), the compost curing area, the finished compost storage area and any other potential odor sources;

3. Scrubbing devices (if any) used to remove odors shall be properly maintained and shall be used with stacks of appropriate height and where exhaust air is properly dispersed.

Q. Setback and Buffer Requirements

1. No waste shall be received (unloaded), stored, processed or composted on any well field or within one thousand (1000) feet of any private or public drinking water supply well or within the wellhead protection area

delineated consistent with the wellhead protection program for a public well. If the owner or applicant seeks a variance from this requirement, then the Department will require demonstration that leachate (if any) from the composting facility will not impact on the water supply, under terms of the variance.

2. No waste shall be received (unloaded), stored, processed or composted within the watershed of any surface water used as a public drinking water supply. If the owner or applicant seeks a variance from this requirement, then the Department will require demonstration that any run-off from the composting facility will not affect surface water quality, under terms of the variance.

3. No waste shall be received (unloaded), stored, processed or composted within two hundred (200) feet of any body of surface water or freshwater wetland. If the owner or operator seeks a variance from this requirement, then the Department will require and the applicant shall demonstrate that any run-off from the composting facility will not significantly and adversely affect the surface water or wetlands, under terms of the variance.

4. Composting activities shall not be located within any freshwater wetlands as defined by R.I. Gen. Laws § 2-1-18 *et seq*. Composting activities shall not occur on a site that is not in compliance with R.I. Gen. Laws § 2-1-18 *et seq*. and the Rules and Regulations promulgated pursuant to that Act.

5. No waste shall be received (unloaded), stored, processed or composted within one hundred (100) feet of the compost facility's property line, nor within five hundred (500) feet of any residence, place of business, or other private or public facilities occupied by humans (excluding the facility owner/operator's residences, offices, or other structures involved with the operation of the composting facility).

R. Design Provisions for Fire and Explosion Prevention, Protection, Suppression and Control

1. The facility shall be designed and constructed to prevent and minimize the potential for fire or explosion;

2. Facility design shall include provisions to monitor and inhibit spontaneous combustion and fire hazards;

3. The facility shall contain a properly designed fire suppression system with sufficient capacity to adequately control a fire within the facility.

S. Communication System Design

1. The facility shall be designed with adequate communication systems to support normal and emergency operating conditions to include at least:

2. An internal communication or alarm system, capable of providing immediate emergency instruction by voice or signal to facility personnel, must be available and in working condition at the immediate operating area of the facility;

3. An external communication system, capable of summoning emergency assistance from local police, fire departments, emergency medical services, and from state and local emergency response agencies, must be available and in proper working condition at the immediate operating area of the facility.

T. Back-up Power Supply

The facility shall be designed with a back-up power supply to meet facility needs during facility outages and to provide adequate power during emergencies, including fires.

U. Facility Support Equipment Requirement

The facility shall have sufficient types and quantities of equipment to support operations.

V. Storage Area for Replacement Parts and Equipment

A properly sized replacement parts and equipment storage area shall be included in the facility.

8.11 Mixed Solid Waste Composting Operating Standards

A. General Operating Standards

The facility shall meet all regulations set forth in this rule and its sub-sections and shall comply with the provisions and limitations of all other pertinent regulations of the Department, including the General Operating Standards in § 1.5 of this Subchapter.

B. Public Access Hours

1. Public access to the facility shall be limited to hours in which authorized operating personnel are on duty;

2. Public access to the facility shall be prohibited when the facility is closed.

C. Fencing and Gate Operation

Gates shall be locked, and all access points shall be secured when the facility is closed and when no authorized personnel are on site.

D. Signs

1. There shall be a sign erected at the entrance to the facility, which is clearly legible and visible, and which shall contain at least the following information:

   a. Name of facility and operator,

   b. Emergency phone number,

   c. Restricted (prohibited) materials,

   d. Operating hours and days open;

2. There shall be adequate directional signs at the entrance and within the grounds of the facility to direct drivers to the appropriate loading area, assist in traffic flow, and regulate speed on facility property.

E. Traffic Flow

1. The facility operator shall employ procedures, controls, and operating schedules to promote even traffic flow, to prevent traffic back-ups, and to keep open the access way for emergency vehicles;

2. The facility operator shall ensure that refuse vehicles unload waste promptly in loading areas.

F. Waste Screening and Inspection Operations

1. The operator shall implement waste receiving area control measures that provide for the screening and inspection of the incoming waste stream to prevent the acceptance of prohibited or unauthorized waste types and to remove unsuitable material, including household hazardous wastes, prior to the initiation of processing.

2. All wastes received by the facility shall be subject to the screening and inspection procedures, per § 8.11(F)(1) of this Part.

3. Prohibited wastes shall include, but not necessarily be limited to, regulated hazardous waste, regulated medical waste, loads identified as unprocessed or unsegregated construction and demolition debris, and loads mostly consisting of non-organic wastes.

4. With respect to recyclable materials (if any) in the incoming waste loads, the facility shall be operated in compliance with all State of Rhode Island requirements regarding source segregation of recyclable materials and, correspondingly, the maximum allowable recyclable materials content in the incoming loads of solid waste, in compliance with the Rules and

Regulations for Reduction and Recycling of Municipal Solid Waste, Subchapter 20 Part 2 of this Chapter and the Rules and Regulations for Reduction and Recycling of Commercial and Non-Municipal Residential Solid Waste, Subchapter 20 Part 1 of this Chapter.

5. Relative to composting, unsuitable wastes shall include wastes, that if put through the composting process will adversely affect compost quality. These wastes include, but are not necessarily limited to, household hazardous waste, used motor oil, asbestos, lead-acid batteries, white goods and other bulky waste. These wastes (if any) shall be removed during initial inspection and separation of such wastes or during pre-processing (if any) of the waste stream, prior to composting of the remaining waste stream.

6. Hazards to processing equipment (if any) shall be identified and removed prior to processing. These include explosives, gas canisters that can explode, oversized materials, etc.

7. Bags of municipal solid waste (MSW) shall be manually or mechanically opened to expose all content for inspection and sorting or processing.

G. Characterization of Wastes

The facility owner or operator shall immediately notify the Department if incoming waste analyses indicate there is a significant change in quality or make-up of the incoming waste stream.

H. Restrictions on Co-Composting Wastes (Sewage Sludge, Septage, and Other Amendments)

1. If the facility co-composts sewage or septage, as a source of nitrogen, then testing and analyses of these uncomposted material(s) shall be as described below. If the facility proposes to co-compost other material(s) as a source of nitrogen or if any other amendments will be made to the incoming waste stream, such as addition of bulking agents then the Department shall be notified, prior to the use of the proposed composting material and the Department shall determine whether or not such amendment will be allowed and will provide the details of testing required, if any.

2. If sewage sludge or septage is to be co-composted, then this uncomposted waste shall be tested initially, prior to co-composting, and thereafter at least annually for the complete TCLP set of parameters and the lab test results from each test shall be submitted to the Department to verify that this uncomposted waste is not a hazardous waste.

3. If sewage sludge or septage is to be co-composted, then additional characterization of this waste shall be done initially, prior to co-composting

and thereafter at least annually. This characterization shall include analyses for total Kjeldahl nitrogen, ammonia nitrogen, nitrate, nitrite, total phosphorus, total potassium, pH, total solids, total volatile solids, cadmium, copper, total chromium, mercury, nickel, lead, arsenic, molybdenum, selenium, and zinc.

I. Incoming Mixed Solid Waste Storage and Schedule for Processing

1. All incoming waste that is not immediately processed shall be confined to the designated storage area for such waste, until processing occurs;

2. Incoming waste shall be processed within three (3) days or disposed of in a manner acceptable to the Department, unless an alternate option is approved by the Department;

3. If the composting facility (including, but not limited to up-front processing operations and/or composting operations) is out of service for a longer period of time than the storage capacity of the site will allow, than additional solid waste shall not be received at this facility during the outage period.

J. Substitute Disposal Provisions

1. The facility must have an alternate method of disposal, in writing, with another in-state or out-of-state licensed solid waste management facility for by-passing of incoming solid waste in the event of equipment failure or forced shut-down or other reason which prevents the facility from receiving or processing a part or all of its normal solid waste input or maintaining acceptable operating conditions and environmental controls.

2. If, for any reason, the facility becomes inoperable, the owner or operator shall notify the Department within 48 hours and implement this contingency disposal plan immediately.

K. Bulky Waste, Special Waste, and Prohibited Waste Handling Procedures and Removal

If any or all of these categories of waste are received by the facility (in the incoming mixed waste stream) and are not immediately removed off-site for recycling or disposal, then they shall be stored in a manner and for a time period that is approved by the Department, as provided for in the approved operating plan.

L. Recyclables Handling Procedures and Removal

1. Removal and handling of waste for recycling, salvage, or utilization shall be performed in a controlled manner that does not impede the proper

operation of the facility, that ensures the health and safety of all persons engaged in such activities, and prevents nuisances and vector intrusion.

2. Recyclables that are separated from the mixed waste stream and not immediately removed off-site for recycling shall be stored in a manner and for a time period that is approved by the Department, as provided for in the approved operating plan.

M. Non-Compostable Residuals Handling Procedures, Removal, and Disposal

1. Any non-compostable residuals from up-front processing or from composting operations, if not immediately removed off-site for disposal, shall be stored in a manner for a time period that is approved by the Department, as provided for in the approved operating plan.

2. Any storage of residuals (if any) shall be done in a manner that prevents nuisances and vector intrusion.

3. Disposal of residuals shall be at a licensed solid waste management facility, except if the residuals can be recycled off-site.

N. Compostable Waste Composting Procedures

1. Control of Decomposition Rates - The initial carbon-to-nitrogen ratio of the feed-stock shall be within an acceptable range such that it is low enough to provide sufficient nitrogen nutrients for vigorous composting, yet it is high enough to minimize ammonia formation and other odors. If a feedstock requires the addition of a nitrogen source to achieve the desired C:N ratio, then the operator shall avoid excessive addition that may result in ammonia dissipation.

2. Moisture Control and Moisture Monitoring

a. Percent moisture content in the composting waste shall be maintained within an acceptable range such as to sustain the desired level of microbial activity necessary for the desired rate of decomposition of the waste and to prevent over drying of the pile.

b. The owner/operator shall provide a source of water at the facility to be used for maintaining proper moisture levels in the composting piles. The quality of water shall be such that it does not contribute significant contaminants to the composting wastes. The capability to add moisture uniformly throughout the piles or bed of composting waste at any time during the composting process shall be provided.

3. Air Flow Control

a. Sufficient aeration of the composting waste shall be provided so as to:

(1) Result in aerobic biochemical decomposition of the organic material.

(2) Enable temperature control.

b. Air flow shall be properly controlled. Insufficient aeration shall be avoided to prevent elevated temperatures that retard microbial activity and to prevent anaerobic decomposition that result in foul odors and production of plant toxins. Excessive airflow shall be avoided so as to prevent over-drying and cooling of the pile or bed.

c. To Ensure Adequate Aeration

(1) Windrow Composting Method - the windrows shall be turned (aerated) as often as necessary to maintain aerobic conditions.

(2) Aerated static pile composting - piles shall be mechanically aerated as often as necessary to maintain aerobic conditions.

(3) Enclosed vessel composting - aeration of the vessel and turning of materials in the vessel shall be such as to maintain aerobic conditions.

4. Mechanical Agitation or Turning of Waste - A schedule for agitation or turning of the waste shall be implemented that provides for thorough mixing of make-up water added to the waste, enables uniform air circulation to ensure uniform microbial activity, aerobic composting, and rapid decomposition, and blends and breaks up material from top to bottom in the pile or bed to enable production of a homogeneous product. Note: This does not apply to aerated static pile composting.

5. Pathogen and Weed Seed Control - A Process to Further Reduce Pathogens (PFRP) is required during the composting process as follows (which will also inactivate weed seeds):

a. Windrow Composting Method - A minimum of five turnings of the windrow is required during a period of 15 consecutive days, while simultaneously maintaining the temperature of the waste mixture at not less than 55 degrees C (131 degrees F) within 6-8 inches below the surface of the pile. In turning the windrow, the exterior of the pile shall be turned into the interior to ensure that all solid waste is exposed to composting conditions.

b. Aerated static pile composting method - The pile shall be insulated (e.g. using a 6-12" layer of sawdust, wood chips, or cured compost) and a temperature of not less than 55 degrees C (131 degrees F) must be maintained throughout the compost pile for at least three consecutive days.

c. Enclosed vessel composting - The mixture in the vessel shall be maintained at a temperature not less than 55 degrees C (131 degrees F) throughout the mixture for at least three consecutive days.

d. If other Department-approved composting methods are employed, operating practices shall reduce pathogens to the extent equivalent to the reduction achieved in any of the above methods, and such operating practices shall be approved by the Department.

6. Temperature Monitoring

a. Monitoring of the temperature of the waste during the composting period must be performed to ensure proper temperature ranges to destroy pathogens and inactivate weed seeds as well as to maintain proper conditions for microbial activity necessary for decomposition of the waste.

b. During the period when conditions necessary to achieve PFRP are being maintained, the following temperature monitoring requirements shall be employed (during PFRP verification):

(1) Windrow composting -Daily temperature readings shall be taken, at equally spaced intervals, for at least (no greater than) every thirty feet of windrow length, but in no case shall there be less than two sets of readings for each windrow. Monitoring shall be at 6-8 inches and 18-24 inches below the pile surface.

(2) Aerated static pile composting - Daily temperature readings will be taken, at equally spaced intervals for at least (no greater than) every 20 feet of pile length, but in no case shall there be less than two sets of readings for each pile. Monitoring shall be at 6-8 inches and 18-24 inches from the outlet of the aeration pipe and at 6-8 inches, 18-24 inches below the pile surface at locations that are not adjacent to an aeration pipe.

(3) Enclosed Vessel Composting - Daily temperature reading shall be taken, monitoring 6-8 inches and 18-24 inches inside the vessel wall and 6-8 inches from the aeration piping when operating in the positive pressure mode. As an

option (due to variability of design among vessel options), the temperature-monitoring plan shall be system specific and must prove to the Department's satisfaction that it will be adequate to determine if PFRP conditions are being met.

(4) Temperature readings shall be taken in the same locations each day and an arithmetic average shall be calculated for each day's readings.

c. Throughout the entire composting process the temperatures of the waste being composted must be monitored and recorded at least once each working day. The details of the daily monitoring program shall be provided to the Department, in the facility's operating plan, and shall be reviewed for adequacy on a case specific basis.

7. Compost Curing Considerations

a. Compost curing shall be performed in static piles or windrows.

b. Proper moisture levels shall be maintained in the curing piles, in order to sustain microbial activity.

c. Aerobic biochemical decomposition conditions shall be sustained in the piles or windrows, throughout the curing phase.

8. Compost Residence Time - Active composting and curing shall be sufficient time to satisfy and comply with PFRP and produce a stable, non-odorous product.

O. Odor Control

1. The operator shall prevent and eliminate conditions that create odors.

2. The facility shall be operated to control any odors that are created.

3. The facility shall not discharge air pollutants which cause objectionable odors off-site (beyond the facility's property line). Odor evaluations shall be conducted by Department personnel to determine if an odor is objectionable by taking into account its nature, concentration, location, duration and source.

4. The composting facility must establish an odor complaint hot line. The facility must have the ability to receive calls on a twenty-four (24) hour per day basis. (An answering machine may be used for this purpose.) Complaints received during normal operating hours must be investigated and responded to immediately. Complaints received during times when the facility is closed must be investigated and responded to within twelve (12) hours from when the complaint is received. All complaints received by

the facility and actions taken in response to the complaints must be reported to the Department within twenty-four (24) hours from when the complaint was received. The facility operating plan must indicate how the odor complaint hot line will be established and what actions will be taken when odor complaints are received. Odor complaint forms must be created and maintained by the facility.

P. Vector Control

1. The facility shall not operate unless any on-site vector population is minimized by appropriate techniques to protect public health as follows:

2. Conditions shall be maintained that are sanitary and therefore unfavorable for the harboring, feeding, and breeding of vectors.

3. Control of insects and rodents, when needed, shall be effected by means of a program directed by a professional exterminator utilizing insecticides and/or rodenticides or other means approved by the Department. Use of such pesticides shall be performed with care, such that composting waste and finished compost is not contaminated by these agents.

4. The operator shall inspect the facility daily to detect any vectors and promptly take corrective action.

Q. Litter Control

1. The operator shall not allow solid waste, composting waste, finished compost, or other materials or wastes to be blown or otherwise undesirably deposited off-site.

2. The operator shall inspect the facility's property daily to detect litter and promptly take any necessary and corrective actions.

R. Dust Control

1. The operator shall prevent and eliminate conditions that create dust.

2. The operator shall use suitable methods and take appropriate actions at all times to control dust at the facility, also including access roads to and from the facility and other areas related to facility operation.

3. The operator shall inspect the facility daily to detect any dust accumulation and promptly take corrective action.

S. Hot Spot Monitoring and Control

The operators shall inspect the facility daily to detect hot spots in a storage or composting area and promptly take corrective action, when necessary.

T. Open Burning Prohibition

Open burning of any type shall be prohibited at a facility.

U. Air Standards

1. The operator shall prevent fugitive air contaminants to a level acceptable to the Department, and otherwise prevent and control air pollution.

2. With respect to air standards, the facility shall not violate state implementation plans approved or promulgated pursuant to R.I. Gen. Laws Chapter 23-23, the Rules and Regulations adopted to implement such chapter, and the Clean Air Act, 42 U.S.C. § 7401 *et seq*. (2017).

V. Surface Water Pollution

The facility shall not cause pollution of the surface waters of the United States so as to violate the R.I. Water Pollution Act, R.I. Gen. Laws Chapter 46-12, 33 U.S.C. § 1251 *et seq*. (2017) (Section 402 of the Clean Water Act), nor shall the facility cause a discharge of dredged material or fill in violation of 33 U.S.C. § 1344 (2017) (Section 404 of the Clean Water Act).

W. Groundwater Pollution

The facility shall not cause pollution of any groundwater. In addition, the facility shall comply with the requirements of the Clean Water Act, 33 U.S.C. § 1251 *et seq*. (2017) (Section 402 of the Clean Water Act), and the regulations adopted pursuant to the Act, specifically 40 C.F.R. § 257.3-4 (2017).

X. Surface Water/Stormwater Control and Erosion Control

1. Surface water and stormwater shall be diverted away from the operating area, to include all areas where waste is received, stored, processed, and composted, and cured, as well as the finished compost storage area and any waste residual storage area.

2. Surface water, stormwater, and any other water that comes in contact with wastes stored for composting, waste being processed or composted or cured, compost waste residue, or processed material which does not meet the specifications for finished compost shall be considered leachate and shall be diverted to the collection area for proper disposal or shall be re-used in waste processing or composting.

3. The facility owner and/or operator shall employ procedures to prevent and minimize erosion and sedimentation during construction, operation, and after closure.

Y. Leachate and Wastewater Control

1. All leachate must be managed by a Department approved method and treated, if necessary, to meet any applicable requirements.

2. The facility shall contain, collect, recycle, or properly dispose any and all liquid waste received or generated at the facility.

3. Any wastewater and liquid waste that is not recycled, but instead disposed, shall be disposed in a manner that does not pollute any source of private or public water supply, any waters of the state, or groundwater.

Z. Operational Records Requirements

1. The owner or operator shall record and shall maintain (for at least three (3) years) the following information regarding daily facility activities. Records shall be available for inspection by Department personnel during normal business hours. Daily records and logs shall include the date of the event.

   a. Source, description and quantity of all wastes received at the facility, as well as additives, seed material, bulking agents, or other materials to be used in the composting process, recorded on a daily basis, on their day of receipt;

      (1) The "source" shall include the name and address of the generator or point of origin of such waste, additive, seed material, bulking agent, or other material used in the composting process,

      (2) "Wastes" shall include both compostable and non-compostable wastes and shall be recorded individually and separately, whenever such wastes are received in segregated forms,

      (3) "Quantity" shall be the weight or volume of waste, additives, seed material, bulking agents or other materials received and the quantity of each type of material shall be recorded individually and separately.

2. Description and quantity, by weight or volume, of prohibited or non-processible wastes transported from the facility and destination of such waste, recorded on a daily basis. These wastes shall include, but not be limited to, any hazardous, non-permitted, bulky, or other special wastes in the incoming waste stream, which have been separated out.

3. Description and quantity, by weight or volume, for each category of recyclable, salvaged, or recovered material transported from the facility and destination of such waste, recorded on a daily basis.

4. Description and quantity, by weight or volume, of compost residues, or other processed non-compostable residue or foreign matter transported from the facility for disposal and destination of such solid waste, recorded on a daily basis.

5. Description and quantity by weight or volume, of any waste by-passed by the facility in the event of equipment failure or forced outage or other reason which prevents the facility from receiving or processing this waste. This daily record shall indicate that this is by-passed waste and shall indicate the reason for bypassing the waste and the destination of such waste.

6. Quantity of non-marketable composted material, by weight or volume, transported from the facility for disposal and destination of such material, recorded on a daily basis. This record shall indicate that the material is non-marketable and the record shall indicate the reason (lack of market, does not meet market specifications, does not meet product quality standards for Class "A", "B", or "C" compost or other reason).

7. For both bagged and bulk compost, the quantity by weight or volume, of finished, marketed compost, transported from the facility, and the planned location and proposed use of the compost, for each compost procurer or buyer of greater than ten (10) cubic yards of compost, recorded on a daily basis. The name and address of each procurer or buyer shall be recorded and if bulk compost is being procured, the compost batch I.D., (see § 8.11(Z)(10) of this Part below) shall be recorded. Also, signatures of the facility's representative and the user shall be recorded.

8. A daily temperature log, for each monitoring point in compost piles, windrows, or beds, which at least includes the monitoring point I.D., (including identification of particular composting pile, windrow or bed and location within the pile, windrow or bed), age of the pile, windrow or bed at the particular monitoring point (i.e., number of days since composting commenced), date, time, temperature reading, data collection method and name of person collecting data.

9. A daily moisture log, which describes composting pile, windrow or bed inspections and any actions taken to maintain proper moisture, including addition of water as necessary.

10. For windrow method of composting, a daily log to be kept for each windrow, which includes windrow I.D., date composting commences, and dates of turning of the windrow (to aerate and mix pile). For other methods of composting, a daily log to be kept, which includes pile or bed I.D., date composting commences and dates of aeration of the pile or bed.

11. A composting time retention log, which identifies, for each pile, windrow, or bed being composted, the total number of days elapsed from commencement of composting to completion of the entire composting processing [including high-rate decomposition, stabilization, curing and refining, (if applicable)].

12. If sewage sludge or septage is co-composted, all lab analyses of all tests performed on representative samples, shall be retained. If the Department requires sampling and testing of any other wastes, additives, bulking agents, or other materials, than those lab analyses shall also be retained.

13. Relative to sampling and testing, and classification of finished compost:

    a. A sampling log shall be kept with an entry for each batch of finished compost to be sampled and tested, per the approved sampling plan, to include the compost batch I.D., the date and time of sampling, the sampling method and location, the name of the person performing the sampling, and the lab to which samples were sent.

    b. All lab analyses of all tests performed on samples of finished compost shall be retained.

    c. A compost classification log shall be kept, which includes, for each batch of finished compost, the compost batch I.D., the classification assigned to that batch, and supporting information used by the facility's owner/operator to justify assigning that classification.

14. A record of actions log, which provides a summary of corrective actions taken by the facility owner/operator, relative to any deficiencies noted in Department inspection reports and relative to any deficiencies or violations issued by the Department in letters of deficiency or notices of violations.

15. Summary of all maintenance procedures on processes, equipment, or monitoring and control systems, and site inspection records.

16. Personnel Training Records - Training records that document the type and amount of training received by current facility personnel shall be maintained at the facility in accordance with the operating plan.

17. Any other records to be kept, as required by the Department or as provided in the approved operating plan.

AA. Operational Reports to DEM

The facility owner and/or operator shall provide periodic written reports of operation, if required by DEM per the approved license. The details and

frequency of reporting shall be provided in the approved operating plan or as license conditions.

BB. Facility Equipment Requirements

1. The operator shall maintain on-site equipment necessary for facility operation in accordance with the license. The equipment shall be maintained in an operable condition.

2. Replacement equipment and parts for equipment, which is subject to excess wear or frequent breakdown, due to the nature of operation shall be stored on-site or at a place where it can be available within twenty-four hours, to provide expedient repair.

3. If a breakdown of operator's equipment occurs, standby equipment shall be utilized as necessary to comply with any license condition.

CC. Facility Inspection and Maintenance

1. The operator of the facility shall maintain all facility components, systems, and equipment in a manner that facilitates proper operation and minimizes downtime.

2. Immediately following the initiation of facility operation, facility personnel shall begin routine inspection for operating effectiveness and equipment/component/system deterioration or malfunction.

3. A planned maintenance and overhaul schedule for major equipment shall be established and executed during facility operation.

DD. Health and Safety

1. The facility shall be designed, operated, and maintained in such a manner so as to protect the health and safety of users of the facility and personnel associated with facility operation, and persons in close proximity to the facility.

2. First aid facilities and supplies shall be available at the facility.

EE. Fire Prevention and Protection

1. The facility shall be maintained and operated to prevent and minimize the potential for fire or explosion.

2. The facility shall have a suitable quantity of water at sufficient pressures suitable for firefighting purposes and approved by the local fire authority.

3. Portable fire extinguishers and fire control equipment shall be available and in proper working condition, at the operating area of the facility.

FF. Emergency Support Services

The facility shall have arrangements, in writing, from nearby fire department, police department, rescue service, medical service, hazardous waste emergency response company, and hazardous waste transporter to provide emergency services in case of facility fires, explosions, hazardous waste incidents or other similar emergencies.

GG. Personnel Staffing Requirements

1. There must be at least one trained attendant (trained in the operation of the facility) on site during any and all operating hours that the facility is open to receive waste.

2. The facility shall maintain sufficient types of quantity and personnel during each operating shift to assure the proper and orderly operation of all components and systems, along with the ability to handle all routine maintenance requirements. Such personnel shall have sufficient educational background, employment experience, and/or training to enable them to perform their duties in a safe and competent manner.

HH. Facility Management

Each operating shift shall have a designated shift supervisor or equivalent to direct and implement operational decisions during that shift. The operation of the facility shall be under supervision and control of qualified individual(s) during all operating hours.

II. Personnel Training Programs

1. There shall be a comprehensive training program for all employees covering normal job responsibilities and procedures, emergency situations and procedures, and safety issues.

2. Employees involved with operation and/or maintenance of the facility shall receive training at least annually.

3. Facility specific training manual(s) shall be used for training facility personnel. The manual(s) shall be kept up-to-date, with any necessary revisions made at least annually. The manual(s) shall be kept in a readily accessible location and shall be available for inspection by the Department.

4. Operating and maintenance personnel shall receive their initial training prior to assumption of operational/maintenance activities.

JJ. Emergency Contingency Plans

. Contingency plans and procedures to handle fires, explosions, hazardous waste incidents and similar emergencies shall be developed for facility personnel and in conjunction with local authorities (police, rescue, fire, medical groups, hazardous waste response companies and transporters), prior to facility operation.

KK. Operation and Maintenance Manual

An operation manual of policies and procedures specific to the facility shall be prepared and updated as needed and available at the facility for inspection by the Department. It shall include general design information, and detailed operational information and instructions that enable supervisory and operating personnel to determine sequence of operations, and routine maintenance procedures with schedules to be followed. Also, it shall include, safety requirements and procedures, emergency shutdown procedures and trouble-shooting procedures.

LL. Finished Compost Storage and Removal

1. The amount of finished compost stored at the facility shall not exceed the designed finished compost storage capacity.

2. Storage of finished compost on site is limited to twelve months. Any finished compost that is not used or sold within twelve months shall be removed from the site.

3. Processed material, which does not meet specifications for compost, shall be managed by the facility as residual waste and shall be disposed of off-site in a manner and schedule consistent with testing, approved by the Department.

4. Incoming solid waste shall not be mixed with finished compost. In order to discourage re-introduction of contaminants, pathogens, and weed seeds, finished compost shall not have any such unprocessed waste mixed in.

5. Finished compost shall not be stored where continuous or intermittent contact can occur between compost and groundwater.

6. Finished compost shall be stored in a manner, which does not create a dust or odor nuisance for off-site receptors.

MM. Facility Closure Plan

1. The facility's owner/operator shall notify the Department at least three months prior to the anticipated date that closure operations are to begin.

2. The facility must implement the approved closure plan.

3. Requests for deviations from the previously approved closure plan shall be in writing, including an updated final closure plan, if appropriate, and written approval from the Department must be obtained prior to implementation.

4. After the closure plan has been fully implemented, the Department shall be notified so that an inspection may be made by Department personnel. A list of deficiencies, if any, will be returned to the owner of the facility. A final Department inspection will be required after all deficiencies are corrected.

5. A professional engineer registered in the State of Rhode Island must certify that the facility is properly closed in conjunction with its approved closure plan.

NN. Transportation Requirements

Any incoming sewage sludge or septage (if any) shall be transported to the facility in vehicles which are properly sealed, watertight and covered while in transit so as to prevent any leakage or dropping of such waste.

OO. Compost Distribution

Compost product offered for distribution shall meet the requirements of R.I. Gen. Laws Chapter 2-22 "Rhode Island Soil Amendment Law" and those parameters outlined in § 8.12 of this Part.

8.12 Compost Product Requirements and Distribution

A. Compost Quality Standards

1. This rule applies to compost produced in all types of composting facilities subject to §§ 8.5, 8.8, or 8.10 of this Part, as well as those composting operations in §§ 8.3 and 8.4 of this Part that are offering finished compost for sale or free distribution. The parameter limits for three classes of compost, Class "A", Class "B" and Class "C", are established in this section. [The allowed uses of these three classes of compost are provided in § 8.12(C) of this Part]. Any finished compost which does not meet the limits established for Class "A" or Class "B" compost shall be considered Class "C" where specific Class "C" limits for heavy metals are omitted.

2. Heavy Metal Limits - mg/kg (dry weight) - maximum allowed

Parameter	Class “A”	Class “B”
Arsenic	41	75

Cadmium	39	85
Chromium (total)	1200	3000
Copper	1500	4300
Lead	300	840
Mercury	17	57
Molybdenum	75	75
Nickel	420	420
Selenium	36	100
Zinc	2800	7500

3. Toxic Organics - mg/kg - maximum allowed

Parameter	Class “A”	Class “B”	Class “C”
PCB (total)	1.0	1.0	10

4. Pathogens - Pathogens include bacteria, viruses, protozoa, helminth and fungi. All classes of compost shall be produced from a process to further reduce pathogens (PFRP). Acceptable composting measures to result in PFRP conditions are provided in § 8.11(N)(5) of this Part. Additionally, all classes of compost produced from mixed solid waste shall have a fecal coliform density less than 1,000 Most Probable Number per gram of total solids (dry weight) (1,000 MPN/gTS) OR a Salmonella density less than 3 Most Probable Number per 4 grams of total solids (3 MPN/4gTS).

5. Foreign Matter - % dry weight - All classes of compost shall not contain glass, metal, etc. (i.e.: foreign materials) that exceed the limits below. The weight fraction of all foreign matter may be no greater than the limits as follows:

Parameter	Class “A”	Class “B”	Class “C”
Foreign matter	1%	2%	4%

6. Particle Size Distribution

    a. Class "A" limit: 100% < 10mm (0.39") particle size

    b. Class "B" limit: 100% < 10mm (0.39") particle size

    c. Class "C" limit: 100% < 25mm (0.98") particle size

7. Electrical Conductivity (maximum soluble salts) - The optimal range for growing media, i.e., compost amended soil, is 0.5-4.5 mmhos/cm. Acceptable levels will vary according to end user application. Compost producers shall provide electrical conductivity information on labels or in other product literature, for the intended end-user application and comply with user industry standards.

8. pH - The acceptable pH level will vary according to end user application and will generally be in the 5.5-8.5 range. Compost producers shall provide pH information on labels or in other product literature, for the end-user application and comply with user industry standards.

9. Maturity and Stability

    a. Class "A" compost and Class "B" compost shall be brown to black in color and shall have a reduction in organic matter, via the composting process, of at least 60% as measured by reduction in volatile solids. It shall be sufficiently stable, such that it does not reheat, upon standing, to greater than 20 degrees C above ambient temperatures. Other techniques or measures, subject to the approval by the Department may be substituted for the above to demonstrate an equivalent maturity and stability.

    b. Class "C" compost shall be light to dark brown or brown to black in color and shall have a reduction in organic matter, via the composting process, of at least 40%, as measured by reduction in volatile solids. It may reheat, upon standing, to greater than 20 degrees C above ambient temperature. Although it may not be a very stable compost, it shall at least be of a state which does not create a nuisance (odor or vector) problem, during storage or when applied by the end-user. Other techniques or measures, subject to the approval by the Department, may be substituted for the above to demonstrate an equivalent maturity and/or stability.

    c. Relative to compost pile stability, temperature measurements, to determine reheat characteristics, shall be at a point two feet into the pile from its outside surface.

    d. Additionally, all classes of compost produced from waste that included sewage sludge and/or septage as a co-composting

material shall be produced from a composting process, whereby the temperature of the composting waste is kept at 40 degrees C for at least 14 days and the average temperature of the composting waste during this 14 day period is greater than 45 degrees C.

B. Compost Sampling and Testing Requirements

1. (This rule applies to all composting operations/facilities subject to §§ 8.3, 8.4, 8.5, 8.7, or 8.9 of this Part.)

a. Parameters in Set #1 include heavy metals (arsenic, cadmium, chromium (total), copper, lead, mercury, molybdenum, nickel, selenium, and zinc), total solids, total volatile solids, total Kjeldahl nitrogen, ammonia nitrogen, nitrate, nitrite, total phosphorus, total potassium, and pH.

b. Parameters in set #2 include PCB's (total), % foreign matter, particle size distribution, electrical conductivity (soluble salts), and product stability (°C reheat or other approved measure).

(1) The Department may decrease or increase the frequency of required sampling and testing due to changes in the make-up of the facility's input waste stream, results of the monitored data, changes in the rate of compost production, or other appropriate factors.

(2) The Department may add or delete parameters to be analyzed due to changes in the make-up of the facility's input waste stream, changes in the pre-processing of waste prior to composting, results of the monitored data, Federal requirements (if any), or other appropriate factors.

2. QA/QC Requirements

a. Sampling and analysis shall be performed, using approved EPA protocols (and per the facility's QA/QC plan that has been approved by the Department, for large-scale composting facilities).

b. All analyses must be performed by a laboratory acceptable to the Department.

c. Reports of Analyses shall include copies of laboratory results with all results reported on a dry weight basis except pH, total solids, and total volatile solids.

3. Sampling and Testing Schedule (for final product)

a. For Small-Scale Composting Operations that sell or freely distribute finished compost, the sampling and testing frequency shall not be less than as follows:

(1) First year of operation - The small-scale composter shall sample and test the finished compost once during the first year for parameter sets #1 and #2.

(2) Subsequent operating years - The sampling and testing frequency may be reduced to biennially for parameter sets #1 and #2.

(3) The frequency of sampling and testing may be further reduced or discontinued if the facility has established, through past test results submitted to the Department, that the finished compost product meets Class “A” compost standards and the facility maintains existing operating procedures. Any changes to facility operating procedures or changes to the types of wastes received by the facility may require increased sampling and testing frequency.

(4) All analysis shall be performed on samples composited from no less than three (3) grab samples, unless specific analysis protocol requires otherwise (i.e.: specific analytical protocols may require analysis of grab vs. composite samples).

b. For Medium-Scale Composting Facilities that sell or freely distribute finished compost, the sampling and testing frequency shall not be less than as follows:

(1) First year of operation - The medium-scale composter shall sample and test the finished compost once during the first year for parameter sets #1 and #2.

(2) Subsequent operating years - The sampling and testing frequency may be reduced to annually for parameter sets #1 and #2.

(3) The frequency of sampling and testing may be further reduced or discontinued if the facility has established, through past test results submitted to the Department, that the finished compost product meets Class “A” compost standards and the facility maintains existing operating procedures. Any changes to facility operating procedures or changes to the types of wastes received by the facility may require increased sampling and testing frequency.

(4) All analysis shall be performed on samples composited from no less than three (3) grab samples, unless specific analysis protocol requires otherwise (i.e.: specific analytical protocols may require analysis of grab vs. composite samples).

c. For large-scale composting facilities, the frequency of sampling and testing shall be performed as prescribed in the facility's approved QA/QC plan. Additionally, this sampling and testing frequency shall not be less than the schedule shown below except as follows: The frequency of sampling and testing may be reduced or discontinued if the facility has established, through past test results submitted to the Department, that the finished compost product meets Class "A" compost standards and the facility maintains existing operating procedures. Any changes to facility operating procedures or changes to the types of wastes received by the facility may require increased sampling and testing frequency.

Parameter Set	Average Compost Produced	Frequency of Analysis*
#1	<1 dry ton/day	Semi-annually
#1	1-10 dry ton/day	Monthly
#1	>10 dry ton/day	Weekly
#2	<10 dry ton/day	Annually
#2	1-10 dry ton/day	Semi-annually
#2	>10 dry ton/day	Monthly
*All analysis shall be performed on samples composited from no less than three (3) grab samples, unless specific analysis protocol requires otherwise (i.e.: specific analytical protocols may require analysis of grab vs. composite samples).		

d. The frequency of sampling and testing may be reduced or discontinued if the facility has established, through past test results submitted to the Department, that the finished compost product meets Class "A" compost standards and the facility maintains existing operating procedures. Any changes to facility operating procedures or changes to the types of wastes received by the facility may require increased sampling and testing frequency.

C. Compost Utilization, Distribution, and Labeling Requirements

1. This rule applies to compost produced in all types of large-scale composting facilities subject to §§ 8.5, 8.7, or 8.9 of this Part. Small-Scale Composting Operations and Medium-Scale Composting Facilities, subject to §§ 8.3 and 8.4 of this Part respectively, and that can only sell or freely distribute their Class “A” finished compost, are only subject to § 8.12(C)(1)(a) of this Part. Class "A", Class "B", and Class "C" compost are defined, according to compost quality standards in § 8.12(A) of this Part. Any facility that produces and/or distributes compost must comply with the Department's Office of Natural Resource Services Commercial Fertilizer Law, R.I. Gen. Laws Chapter 2-7, and any other Rules and Regulations pertaining to fertilizer and soil amendment products. All fertilizer and soil amendment products must be registered with the RIDEM Division of Agriculture before being offered for sale.

   a. Class "A" Compost

      (1) Class "A" Compost Utilization: Unrestricted use - this class of compost may be distributed for agricultural and non-agricultural use including, but not limited to, the following:

         (AA) Agricultural uses.

         (BB) Homeowner use.

         (CC) Nurseries and tree farms.

         (DD) Floriculture and turf-grass production.

         (EE) Other agricultural and horticultural uses.

         (FF) For landscape applications, including also highway medians and roadsides.

         (GG) For public parks and grounds, sports fields and stadiums, golf courses, cemeteries, and similar applications.

         (HH) On forest land.

         (Il) For land reclamation.

   b. Class "A" Compost Distribution and Labeling:

      (1) Bagged or Packaged Compost - All compost that is bagged or distributed in any other packaged form shall be properly labeled. The label shall appear on the face or display side of

the container and the label shall contain, at a minimum, the following information in a readable and conspicuous form:

(AA) Net weight or volume of the contents.

(BB) Brand name, which shall include in its name or in a separate section of the label, an indication that it qualifies as R.I. Class "A", Class "B", or Class "C" compost (per compost quality standards within § 8.12(A) of this Part.

(CC) The type of waste the compost product was derived from, including a listing of wastes that make-up the waste stream that was composted, any bulking agents, and any co-composting materials or wastes.

(DD) Recommended safe uses.

(EE) Any restrictions (prohibitions) on use of the product.

(FF) Directions for application to soil (to include recommended land application rates).

(GG) Name and address of the registrant (distributor).

(HH) Warning to keep out of reach of children.

(II) Electrical conductivity, and pH ranges of compost and the acceptable levels according to end user applications.

(JJ) If the recommended land application method does not include mixing or blending this product with existing on-site soils, then a statement that the product is "lead safe" but not "lead free" must appear on the package. If the product is "lead free", then no statement is required.

(2) Unpackaged or Bulk Distribution of Class "A" Compost - Unpackaged or bulk distribution shall mean Class "A" compost that are sold or given away in bulk (not in a bag or container) for application to the land. Class "A" compost that is sold or given away in a container holding more than fifty (50) pounds of Class "A" compost shall be considered unpackaged distribution. The requirements for the distribution of unpackaged Class "A" compost is based on volume as follows:

(AA) Less Than Ten (10) Cubic Yards - Any distributor of Class "A" compost must provide, in writing, to all users taking less than ten (10) cubic yards per day the same information as required for bagged or packaged compost.

(BB) More Than Ten (10) Cubic Yards - Any distributor of Class "A" compost must provide a "User's Guide" to all users taking more than ten (10) cubic yards per day, in addition to the information required for bagged or packaged compost distribution. The "User's Guide" must be approved by the Department, and must include instructions on the proper use of the product for various applications.

(3) The distributor must maintain written records of the following information:

(AA) The date the Class "A" compost was taken; name of user; amount of Class "A" compost taken, and its intended use and location; and signatures of the operator and the user.

(BB) The distributor must also indicate in the records that the user received a "User's Guide". Said records must be available for inspection at all times.

2. Class "B" Compost Utilization and Distribution: This class of compost may be distributed for agricultural and non-agricultural applicants with Department approval, and must be limited to bulk distribution only. Restrictions apply on use where crops are produced for direct human consumption, residential/homeowner use, any use with unrestricted public access, or any use where excessive ingestion of soil/dust may occur by children under seventy-two (72) months of age. All projects and/or locations utilizing Class "B" compost must obtain advance approval from the Department.

a. Agricultural Utilization of Class "B" Compost - This sub rule applies to the utilization of Class "B" compost as a fertilizer and/or soil amendment to enhance agricultural lands. Such uses may include, but are not limited to nurseries and tree farms, floriculture, and turf grass production.

(1) Soil Analysis - Soil from the proposed land application site must be tested for metals and for the parameters listed in § 8.12(A) of this Part. The Director shall determine the testing

and reporting frequency. All soil analyses shall be the responsibility of the applicant.

(2) Land Application Rates - All Class "B" compost intended for agricultural utilization must be applied at an annual rate not to exceed the amount necessary to supply adequate available nitrogen for crop production using good agricultural practices or not to exceed the maximum annual rates recommended by the U.S. Department of Agriculture to achieve fertilizer benefits and soil improvement.

(3) Cumulative Loading Rates - The maximum amount of Class "B" compost that can be applied to a land application site shall be subject to satisfying either:

(AA) Federal or Department determined Annual Pollution Loading Rate Limits (as determined by the Department's Office of Water Resources), or

(BB) Federal or Department determined Cumulative Pollution Loading Rate Limits (as determined by the Department's Office of Water Resources);

(CC) The amount of metals in the soil shall be deducted from each calculation.

(4) Crops - Food chain crops with harvested parts that touch the Class "B" compost/soil mixture and are totally above the land surface shall not be harvested for fourteen (14) months after application of Class "B" compost. Food chain crops with harvested parts below the surface of the land shall not be harvested for twenty (20) months after application of Class "B" compost when the Class "B" compost remains on the land surface for four (4) months or longer prior to incorporation into the soil. Food chain crops with harvested parts below the surface of the land shall not be harvested for thirty-eight (38) months after application of Class "B" compost when the Class "B" compost remains on the land surface for less than four (4) months prior to incorporation into the soil. Food chain crops with harvested parts that do not touch the Class "B" compost/soil mixture, feed crops and fiber crops shall not be harvested for thirty (30) days after application of Class "B" compost. If a land application site receives Class "B" compost which meets the pathogen limits established for Class "A" compost, the requirement above may be waived. Soil pH must be maintained at 6.5 or higher to reduce solubility and plant uptake of heavy metals.

(5) Animal Grazing - Animals whose products are consumed by humans shall not be allowed to graze on land where Class "B" compost is applied for thirty (30) days after the last application of Class "B" compost has occurred. If a land application site receives Class "B" compost which meets the pathogen limits established for Class "A" compost, this requirement may be waived.

(6) Turf - Turf grown on land where Class "B" compost is applied shall not be harvested for one (1) year after the last application of Class "B" compost has passed when the harvested turf is placed on either land with a high potential for public exposure or a lawn. If a land application site receives Class "B" compost which meets the pathogen limits established for Class "A" compost, this requirement may be waived.

(7) Public Access - Public access to land where Class "B" compost has been applied shall be prohibited by the owner or operator until such time as vegetative growth has been established on the site or one (1) year has passed since the last application of Class "B" compost to land with a high potential for public exposure, such as a park or ball field or thirty (30) days has passed since the last application of Class "B" compost to land with a low potential for public exposure, such as private farmland. If a land application site receives Class "B" compost which meets the pathogen limits established for Class "A" compost, this requirement may be waived.

(8) Frozen Ground - No Class "B" compost shall be applied to frozen, flooded or snow-covered ground unless appropriate erosion and runoff control measures are provided.

(9) Groundwater - A minimum of two (2) feet of soil is required between the lowest level of Class "B" compost and the highest water table level established during the seasonal high groundwater table period determined by the Department in accordance with the Department's Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems, Part 150-10-6 of this Title. In addition, a minimum of three (3) feet of soil is required between the highest level of bedrock and the lowest level of applied Class "B" compost.

(10) Surface Water - No Class "B" compost shall be land applied within fifty (50) feet of any body of surface water or within one hundred (100) feet of any body of surface water within the watershed of a public drinking water supply. The Director, may, if necessary, require continuous monitoring of any surface water courses in the vicinity of the proposed Class "B" compost application site. Such monitoring shall be of a type and frequency determined by the Director on a case-by-case basis and shall be the responsibility of the owner or operator. If the applicant demonstrates to the satisfaction of the Department that any runoff from the proposed project will not affect surface water, this requirement may be waived.

(11) Drinking Water Wells - No Class "B" compost shall be land applied within fifty (50) feet of any private drinking water supply well or within four hundred (400) feet of any public drinking water supply well. Land application of Class "B" compost shall be in accordance with the Rhode Island Groundwater Protection Act of 1985, R.I. Gen. Laws Chapter 46-13.1 and any Rules and Regulations promulgated thereunder.

(12) Distance to Property Lines - No Class "B" compost shall be land applied within fifty (50) feet of a property line.

(13) Monitoring Wells - Groundwater monitoring shall be of a type and frequency determined by the Director on a case-by-case basis and shall be the responsibility of the owner or operator.

(14) Erosion Control - All Class "B" compost application sites where the slope exceeds three (3) percent, or where runoff and erosion may result, shall be designed for appropriate erosion control measures (Rhode Island Erosion and Sediment Control Handbook, USDA, SCS, 1990). The maximum allowable annual soil loss shall not exceed three (3) tons per acre when applying the Universal Soil Loss Equation.

(15) Transportation - All Class "B" compost shall be transported in vehicles which are properly covered while in transit so as to prevent any dropping of Class "B" compost.

b. Non-Agricultural Utilization of Class "B" Compost - This sub rule applies to utilization of Class "B" compost as a fertilizer and/or soil amendment to enhance non-agricultural lands. Such uses may include, but are not limited to public parks and grounds, sand and

gravel pit reclamation, roadsides and medians, silviculture, playgrounds, golf courses, ball fields and stadiums and cemeteries.

(1) Cumulative Loading Rates - The maximum amount of Class "B" compost that can be applied to a land application site shall be subject to satisfying either:

(AA) Federal or Department determined Annual Pollution Loading Rate Limits, or

(BB) Federal or Department determined Cumulative Pollution Loading Rate Limits;

(CC) The amount of metal in the soil shall be deducted from each calculation.

(2) Public Access - Public access to land where Class "B" compost is applied shall be prohibited by the owner or operator until such time as vegetative growth has been established on the site, or one (1) year has passed since the last application of Class "B" compost to land with a high potential for public exposure, such as a park or ball field or thirty (30) days has passed since the last application of Class "B" compost to land with a low potential for public exposure, such as a sand and gravel pit reclamation site. If a land application site receives Class "B" compost which meets the pathogen limits established for Class "A" compost, this requirement may be waived.

(3) Frozen Ground - No Class "B" compost shall be applied to frozen, flooded or snow-covered ground unless appropriate erosion and runoff control measures are provided.

(4) Groundwater - A minimum of two (2) feet of soil is required between the lowest level of Class "B" compost and the highest water table level established during the seasonal high groundwater table period determined by the Department in accordance with the Department's Rules Establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Onsite Wastewater Treatment Systems, Part 150-10-6 of this Title. In addition, a minimum of three (3) feet of soil is required between the highest level of bedrock and the lowest level of applied Class "B" compost.

(5) Surface Water - No Class "B" compost shall be land applied within fifty (50) feet of any body of surface water or within one hundred (100) feet of any body of surface water within

the watershed of a public drinking water supply. The Director, may, if necessary, require continuous monitoring of any surface water courses in the vicinity of the proposed Class "B" compost application site. Such monitoring shall be of a type and frequency determined by the Director on a case-by-case basis and shall be the responsibility of the owner. If the applicant demonstrates to the satisfaction of the Department that the proposed project will not affect surface water, this requirement may be waived.

(6) Drinking Water Wells - No Class "B" compost shall be land applied within fifty (50) feet of any private drinking water supply well or within four hundred (400) feet of any public drinking water supply well. Land application of Class "B" compost shall be in accordance with the Rhode Island Groundwater Protection Act of 1985, R.I. Gen. Laws Chapter 46-13.1 and any Rules and Regulations promulgated thereunder.

(7) Distance to Property Lines - No Class "B" compost shall be land applied within fifty (50) feet of a property line.

(8) Monitoring Wells - Groundwater monitoring shall be of a type and frequency determined by the Director on a case-by-case basis and shall be the responsibility of the owner or operator.

(9) Erosion Control - All Class "B" compost application sites where the slope exceeds three (3) percent, or where runoff and erosion may result, shall be designed for appropriate erosion control measures (Rhode Island Erosion and Sediment Control Handbook, USDA, SCS, 1990). The maximum allowable annual soil loss shall not exceed three (3) tons per acre when applying the Universal Soil Loss Equation.

(10) Transportation - All Class "B" compost shall be transported in vehicles which are properly covered while in transit so as to prevent any dropping of Class "B" compost.

3. Class "C" Compost Utilization and Distribution - This class of compost is restricted to use in locations with limited public access and must be limited to bulk distribution only. All projects and/or locations utilizing Class "C" compost must obtain advanced approval from the Department, and allowable uses are limited to the following:

a. Landfill cover material (if approved by the landfill)

b. Other uses, if approved by the Department, on a case-by-case basis, and which may be subject to satisfying either:

(1) Federal annual pollution loading rate limits or Department determined annual pollution loading rate limits, or

(2) Federal cumulative pollution loading rate limits or Department-determined cumulative pollution loading rate limits. The amount of metal in the soil shall be deducted from each calculation.

c. Transportation - All Class "C" compost shall be transported in vehicles which are properly covered while in transit so as to prevent any dust or dropping of Class "C" compost.

4. Unlabeled Compost - Any bagged or packaged compost that does not contain all of the required information on the label and/or any bulk compost that does not have the required accompanying hand-out or other form of hard copy per §§ 8.12(C)(1), (2), and (3) of this Part shall be considered solid waste and must be handled and disposed per Department solid waste disposal requirements, unless otherwise approved by the Department for use as compost or for other applications. This shall apply to compost produced from facilities in Rhode Island, as well as in other states, and distributed/marketed in Rhode Island for land application in Rhode Island.

5. Improperly Labeled Compost

a. Any bagged or bulk compost that is not in compliance with the required labeling details, per §§ 8.12(C)(1), (2), and (3) of this Part respectively, shall be considered solid waste and must be handled and disposed per Department solid waste disposal requirements, unless otherwise approved by the Department for use as compost or for other applications. This shall apply to compost produced from facilities in Rhode Island, as well as in other states, and distributed/marketed in Rhode Island for land application in Rhode Island.

b. No information or statement shall appear on any package, label, written handout, delivery slip, or other form of hard copy, or in any advertising matter, which is false or misleading to the purchaser as to the use, value, quality, analysis, or composition.

c. No person shall distribute or market an adulterated compost. The compost shall be deemed to be adulterated if:

(1) It contains any deleterious or harmful agent in sufficient amount to render it injurious to beneficial plant, animal, or

aquatic life when applied in accordance with directions for use on the label (or on any written hand-out or other form of hard copy, relative to bulk compost), or

(2) Adequate warning statements and directions for use, which may be necessary to protect plant, animal, or aquatic life are not shown upon the label (or on any written hand-out or other form of hard copy, relative to bulk compost), or

(3) Relative to compost to be distributed/marketed as a soil amendment, if soil amending ingredients are listed or guaranteed on the label (or on any written hand-out or on other form of hard copy relative to bulk compost) and if the actual composition of such ingredients falls below or differs from that which it is purported to possess by its labeling, or

(4) The compost is to be distributed/marketed as a soil amendment and the compost contains unwanted crop or weed seed or primary noxious or secondary noxious weed seed.

6. Other Soil Amendment Considerations

a. If the compost is to be distributed/marketed as a soil amendment, then no soil-amending ingredient may be listed or guaranteed on labels (or on any written handouts or other form of hard copy, relative to bulk compost) without the permission of the Director. The Director may allow a soil-amending ingredient to be listed or guaranteed if satisfactory supporting data is provided to the Director to substantiate the value and usefulness of the soil amending ingredients.

b. If the compost is to be distributed/marketed as a soil amendment, then each identified product (brand) shall be registered before being distributed/marketed in Rhode Island. The application for registration shall be submitted to the Director on application forms furnished or approved by the Director and shall be accompanied by a fee of fifty ($50.00) dollars per product. The manufacturer of the compost shall submit to the Director a copy of the label (or written hand-out or other form of hard copy, relative to bulk compost) and any advertising literature proposed to be used, and these shall accompany the application for registration for each identified product. Prior to approving the application for registration of each product, the Director may require evidence to substantiate any claims made on the label, in written hand-outs or other forms of hard copy, or in advertising literature and the Director may also require proof of the value or usefulness of the compost. If the

Director approves the registration application, then a certified copy of the registration shall be furnished to the applicant. All registrations expire on December 31 of each year.

c. If the compost is to be distributed/marketed as a soil amendment, then it may be subject to additional considerations, per regulatory oversight by the Rhode Island Division of Agriculture, as authorized by R.I. Gen. Laws Chapter 2-22.

D. Distribution and Marketing of Out-of-State Compost in Rhode Island

1. This rule applies to compost produced at an out-of-state composting facility (where the composting facility is of a type included under § 8.5, 8.7, or 8.9 of this Part or any composting operation of the type described in §§ 8.3 and 8.4 of this Part that offers its finished compost for sale), which in turn is distributed and marketed in Rhode Island.

a. Compost Quality Standards:

Compost produced at an out-of-state composting facility which has not been approved by the Department for use in Rhode Island or which does not at least meet quality standards for Rhode Island Class "C" compost, per § 8.12(A) of this Part, or which is produced by a composting facility which has not complied with the regulatory requirements of the state in which it is located, shall be deemed to be solid waste upon transfer to Rhode Island (unless it is determined to be hazardous waste) and shall be managed as such.

b. Allowable Uses:

Compost produced at out-of-state composting facilities may be marketed in Rhode Island in accordance with the allowed uses for compost produced in Rhode Island, per § 8.12(C) of this Part.

c. Sampling and Testing Requirements

Compost produced at out-of-state composting facilities must be sampled and tested in accordance with sampling and testing requirements for compost produced at Rhode Island composting facilities; per § 8.12(B) of this Part, prior to distribution and marketing in Rhode Island.

d. Storage Requirements

Any compost at an out-of-state composting facility, proposed for distribution and marketing in Rhode Island, shall not have been stored more than twelve months.

e. Distributor Request for Approval to Distribute. Prior to initial distribution of the out-of-state compost in Rhode Island the distributor must obtain written approval of the Department. The distributor shall submit a written request for approval, which must contain at least the following:

(1) A copy of the permit, license, or other approval, if required, for the composting facility that produced the compost and the applicable Rules and Regulations from the state in which the compost is generated.

(2) Laboratory reports of results for a minimum of three analyses of the compost.

(3) A description of the process to further reduce pathogens (PFRP) employed by the composting facility that produced the compost, with appropriate monitoring data, as determined by the Department.

(4) A description of the distribution method, quantity of compost that will be distributed in Rhode Island, and proposed use(s) of the compost. If end-user(s) have been determined, the name and address of the user and the location of the site where the compost will be applied and purpose of application.

(5) If bagged compost (Class "A") will be distributed, a copy of the label to verify the information complied with Rhode Island requirements for labeling, per § 8.12(C)(1) of this Part, or is acceptable to the Department.

(6) If bulk compost will be distributed, a copy of printed literature for the product, to verify the information provided to the user complies with Rhode Island requirements, per § 8.12(C) of this Part, or is acceptable to the Department.

(7) If any compost will be stored in Rhode Island, prior to distribution to the end-user, the address of the storage facility, a description of the storage facility, and volume of compost to be stored and storage duration.

f. Compost Distribution Reporting Requirements. Each out-of-state distributor of compost, generated from an out-of-state composting facility and distributed to Rhode Island, shall submit an annual report to the Department within 60 days after the start of the calendar year. The report shall include, at least the following:

(1) The type and source of waste the compost is derived from.

(2) All information and analytical results, per sampling and testing requirements.

(3) The quantity of compost distributed in Rhode Island within the past year.

(4) A description of the product distribution in Rhode Island.

8.13 Anaerobic Digestion Facility License Requirements

A. General Information

1. No person shall construct or operate an anaerobic digestion facility unless said person has received a license approved by the Director.

2. One (1) copy of the license application shall be submitted to the Office of Land Revitalization and Sustainable Materials Management. In addition, the applicant shall provide a copy of the application in an approved electronic format to the Office of Land Revitalization and Sustainable Materials Management.

3. It is the responsibility of the applicant to obtain all necessary permits or approvals required by federal, state and local laws and regulations. Cooperation with the Office of Land Revitalization and Sustainable Materials Management will not be construed as relieving the applicant of this obligation.

4. Granting of a license, license renewal or permission for an equipment addition shall in no way affect the applicant's responsibility to meet all federal and state laws, local zoning and other local codes or ordinances.

5. If the digestate solids will be composted and composting will be performed either on-site or off-site in Rhode Island by this same entity, then the entity shall also submit an application for a putrescible waste composting facility registration, per § 8.7 of this Part and submit the applicable details/requirements of that rule. Digestate solids may also be sent offsite for composting to any entity at a site in Rhode Island, provided that the entity is either a registered putrescible waste composting facility or a licensed mixed solid waste composting facility. The final compost product shall meet the product and distribution requirements per § 8.12 of this Part. If the digestate solids are sent out of state for composting, then the applicable state's regulations for composting shall apply.

6. If any portion of the digestate is processed into or distributed as a fertilizer, and the distribution is for use in Rhode Island, then the fertilizer shall meet the requirements of the RIDEM Rules and Regulations Relating to Fertilizers, Part 40-20-10 of this Title, as well as those of R.I. Gen. Laws

Chapter 2-7. Otherwise, it shall satisfy the requirements of the state it is distributed to.

7. All activities related to the operation of an anaerobic digestion facility shall be conducted within the confines of an enclosed building, structure or vessel. Activities include receiving and preparing feedstock, anaerobic digestion, handling and management of digestate, composting and storage of finished compost. The applicant may petition the Department to conduct an activity outside the confines of an enclosed building, structure, or vessel if it can be demonstrated that the facility will not impact the surrounding community pursuant to § 8.1(L)(2) of this Part of the Anaerobic Design Standards.

8. Required Plans - In addition to meeting the general requirements set forth in § 1.5 of this Subchapter, each applicant for a license to construct and operate an anaerobic digestion facility is required to submit:

   a. Radius Plan pursuant to § 8.3(C) of this Part;

   b. Site Plan pursuant to § 8.3(D) of this Part;

   c. Construction and Engineering Plans and Specifications pursuant to § 8.3(E) of this Part;

   d. Description of Design and Operation of Facility pursuant to § 8.3(F) of this Part;

   e. Odor and aesthetic considerations pursuant to § 8.3(G) of this Part;

   f. Operating Plan pursuant to § 8.3(H) of this Part;

   g. Product Storage and Marketing Plan pursuant to § 8.3(I) of this Part;

   h. Facility Closure Plan pursuant to § 8.13(J) of this Part.

B. Applicability

§ 8.13 of this Part applies to any person(s), corporation or other entity proposing to construct and/or operate a facility to produce natural gas and/or energy and/or product(s) from digestate, resulting from the anaerobic digestion of organic materials and/or organic solid wastes. These rules only apply to entities that accept and process wastes received from off-site sources.

C. Radius Plan

1. Radius plan(s) including all of the information listed below shall be submitted for approval with each license application. The radius plan(s)

shall be drawn to an appropriate scale adjusted to fit a standard 24 x 36-inch size sheet and including all areas within a one quarter (1/4) mile radius out from all property lines of the anaerobic digestion facility site. The required information includes:

a. Zoning of all areas as required by § 1.5(E)(5) of this Subchapter;

b. All buildings and dwellings (labeled with identification);

c. All public and private water supplies (groundwater wells, reservoirs, etc.);

d. All surface watercourses (labeled with identification);

e. All wetlands and extent of 100-year flood plain (if applicable);

f. All sporting or recreational facilities, parks, conservation and management areas, wildlife refuges and historic sites (labeled with identification);

g. All roads, bridges, railroads and airports (labeled with identification);

h. All rights-of-way or easements for power lines, pipelines, etc.;

i. Legal boundaries of the site, certified by a registered land surveyor in Rhode Island;

j. North arrow;

k. Legend.

D. Site Plan

1. Site plan(s), including all the information listed below for all areas within the site, shall be submitted with the license application. The site plan(s) must be drawn to a minimum scale of one (1) inch to one hundred (100) feet (1"=100'), adjusted to fit on a standard 24 x 36-inch size sheet. The required information includes:

a. Legal boundaries of the site, which shall be certified by a registered land surveyor in the State of Rhode Island;

b. An outlined area showing the proposed licensed area of the facility (if different from the legal boundaries of the site);

c. Proposed fences, gates, barriers, security stations and similar structures providing access control;

d. Access roads and on-site roads;

e. On-site vehicle traffic patterns;

f. Vehicle inspection areas;

g. Parking areas;

h. Weighing facilities (for in-coming vehicles with feedstock), (if any) and feedstock receiving areas;

i. Buildings and structures related to the facility and dwellings;

j. Equipment storage areas (if any);

k. Any storage areas/vessels for feedstock, storage areas for non-processible and non-permitted materials/waste received and feedstock preparation areas;

l. Digester processing areas

m. Digestate management areas and drying areas (if applicable)

n. Composting and curing areas or other product preparation areas (if applicable)

o. Final product storage areas (if any)

p. Biogas handling/processing areas and/or flaring and/or power generation equipment areas:

q. Power lines, pipelines and other utilities connected to the facility and rights of way;

r. Aboveground/Underground Storage Tanks (if any);

s. On-site groundwater wells, surface water courses, water supply areas or wetlands and public or private land conservation areas (if any);

t. Locations of any monitoring wells or surface water monitoring locations (if any);

u. Odor control structures;

v. Locations of any on-site environmental control measures (e.g. storm water control, run-on/run-off control, erosion and sedimentation control, leachate management features, etc.);

w. Labeling of any buffering features/buffer zones;

x. North arrow;

y. Legend;

z. Site designation (within or outside a wellhead protection area).

E. Construction and Engineering Plans and Specifications

1. A preliminary set of construction and engineering plans and specifications relating to all buildings, structures, vessels, equipment and key features of the facility shall be submitted to the Department with the license application. The set shall be sufficient in detail to allow for a comprehensive application review. A complete set of final plans will be submitted prior to construction or operation per Department requirements;

2. Plans showing on-site dimensions and details of the proposed feedstock receiving area, feedstock storage area, non-processible/non-permitted material storage area, feedstock preparation area, digester and related equipment, digestate handling/storage area, digestate drying area (if applicable), biogas handling/processing area, odor control system(s) area, power generation area (if applicable), composting/curing area or other product preparation areas (if applicable), and final product storage area (if any) and including plans for the building(s) and other means to contain these activities;

3. Specifications for the design, construction and maintenance of the surface pads or other means, for digestate composting, or other product preparation and product storage (if applicable), submitted prior to facility construction;

4. Specifications and plans (drawings) for on-site equipment/systems, including manufacturer's design and performance data for the selected equipment relative to feedstock preparation, anaerobic digestion, biogas handling/processing, biogas flaring (if applicable), power generation equipment (if applicable), digestate drying (if applicable) and processing, composting (if applicable) or other product preparation (if applicable), submitted prior to facility operation;

5. Discussion of site preparation, including clearing and grubbing;

6. Specifications and plans for odor control equipment, submitted prior to facility operation;

7. Engineering Management Plan presenting the design basis and calculations for other applicable environmental controls, such as, but not limited to: storm water management controls, leachate collection/control

and proper disposal system, and wastewater collection/control and proper re-use and/or disposal system;

8. Specifications for fire prevention, suppression and control systems included in the final approved fire protection plan.

F. Description of Design and Operation of Proposed Facility

1. This overview should include, at a minimum:

a. A descriptive overview (summary) of the entire operating process from reception of feedstock at the facility to product generation at the site, including feedstock receiving activities and storage, feedstock preparation, anaerobic digestion, biogas production, handling, and processing (if applicable) , gas flaring (if applicable), power generation (if applicable), digestate management activities, composting and post-composting activities (if any), such as screening and refining and/or other product preparation activities;

b. A process flow diagram of the entire process in § 8.13(F)(1)(a) of this Part above, that takes into account any manual steps, as well as mechanical or automated steps, and includes a total mass balance and accounts for all flow streams;

c. A descriptive overview (summary) of the equipment employed in the entire process in § 8.13(F)(1)(a) of this Part above, including information on the function and capacity of each item of equipment;

d. Discussion of the number of anaerobic digestion and odor control systems in service during normal operating conditions and capacity of each system as well as discussion of any stand-by systems, if any.

G. Odor/Aesthetic Considerations

1. A description of the prevailing winds during the various seasons of the year, with respect to impact on off-site receptors;

2. A description of the air emission collection and control technology and all odor control systems to minimize any impact on the off-site receptors;

3. A description of any aesthetics to be included in the proposed facility/site.

H. Operating Plan

1. An operating plan shall be submitted for approval. The duration of the operating plan shall equal that of the license and shall be updated with each application for renewal or earlier if necessary. The operating plan

shall be reviewed by the applicant prior to license renewal and any changes to such plan shall be submitted to the Department for approval at that time. Any changes or additions to the facility's operation subsequent to the approval of the operating plan, including new equipment additions, shall be submitted to the Department for approval prior to the time that changes will be implemented. The applicant shall comply with the requirements specified in §§ 8.14 and 8.15 of this Part. In addition, the following information, at a minimum, shall be included in the Operating Plan:

a. Operating Rates and Maximum Processing Capacity (tons/day)

b. Operating Days and Hours the facility will receive, load/unload feedstock, conduct processing, housekeeping and maintenance activities.

c. Provisions for Limiting Public Access including descriptions of any proposed fences, gates, barriers, security stations, and similar structures.

d. Types of Materials/Wastes to be Accepted

    (1) A list of the expected types and sources of organic materials and/or organic solid wastes to be accepted.

    (2) The expected average percentage of the total feedstock stream, assignable to each type of feedstock.

    (3) Specification of any prohibited materials/wastes that will not be accepted by the facility.

    (4) Type, source and quality of any amendment that will be added to the feedstock, prior to digestion.

e. Feedstock Analysis Plan - A general description of each type of feedstock expected to be received and any preparation of the feedstock prior to digestion, to demonstrate its suitability for digestion and subsequent use as digestate products.

f. Description of On-Site Roads and Traffic Flow Patterns on Site

g. Weighing Facilities

    (1) A description of the equipment and processes used to weigh incoming waste-containing transport units.

    (2) Record-keeping procedures and details for weighed loads.

h. Feedstock Inspection and Screening Procedures

(1) A description of the feedstock inspection and screening procedures (and sampling/analysis procedures, if applicable) used to assure that incoming feedstock accepted by the facility is consistent with the operating plan and such that unsuitable feedstock that is received is separated from feedstock to be processed.

(2) Location of the feedstock inspection and screening personnel.

(3) An overview of the plan used to train the feedstock inspection and screening personnel.

(4) A description of equipment or devices, if any, used to screen incoming feedstocks on vehicles.

i. Feedstock Unloading Procedures - Procedures for unloading feedstock hauling vehicles and a description of the feedstock unloading and receiving area including size and capacity to receive feedstock.

j. Feedstock Storage

(1) A description of the storage facility for feedstock, including the storage capacity (tons or cubic yards).

(2) The amount of time the feedstock will be stored prior to processing.

k. Storage and/or Handling of Feedstock Amendments - A description of the storage facilities for each of the items (if applicable), including the storage capacity.

l. Non-Processible Waste and Prohibited Waste Handling and Disposal Procedures,

(1) A description of the methods employed to separate out these wastes from the incoming feedstock stream, where applicable.

(2) A description of the storage facilities and storage capacities for the non-processible waste and prohibited waste, including solid waste or hazardous waste that has been unloaded at the facility.

(3) The time interval for removal of non-processible waste from the facility and the name(s) and location(s) of the disposal site(s) for such waste.

m. Recyclables Handling Procedures (if applicable)

(1) A description of the recyclables separation program (if any), including a discussion of the equipment and methods employed for removing and recovering recyclables, prior to digestion process.

(2) A discussion of markets for the recyclables and the name(s) and location(s) for disposition of these recyclables.

n. Anaerobic Digestion and Biogas Generation

(1) A technical discussion detailing the anaerobic digestion process.

(2) Details of digestion process monitoring.

(3) Details of the handling/processing and usage of biogas produced from digestion.

o. Digestate Management

(1) Average makeup of digestate (percent solid and percent liquid)

(2) Details of management of solid digestate.

(3) Details of management of liquid digestate (if any).

p. Residue Handling, Storage, and Disposal

(1) A description of the method of separation of residue from digestate and/or final product, if applicable.

(2) A description of the physical and chemical composition of the residue.

(3) Description of the storage facility area and storage capacity for this residue, if stored prior to disposal.

(4) The time interval for off-site disposal of this residue and the name(s) and location(s) of the disposal sites.

q. Storm water Management and Erosion/Sedimentation Control Plan

r. Leachate and Wastewater Management, Use/Disposal

(1) A description of the method to collect and control leachate from the facility.

(2) Description of treatment of leachate (if applicable) and description of the usage or method of disposal of leachate.

(3) Description of wastewater treatment and management control or disposal plan.

s. Methods of Protecting Groundwater and Surface Water – Anaerobic Digestion facilities may be required by the Department to install monitoring wells at locations approved by the Department. A hydrogeological report and water quality monitoring plan may be required based on the following factors:

(1) Any operations located outside an enclosed building, structure, or vessel;

(2) Size and location of activity;

(3) Groundwater classification and proximity to groundwater drinking wells (public and private);

(4) Proximity to and classification of surface water bodies, flowing water bodies and freshwater wetlands; or

(5) Other factors determined by the Department that may be necessary to protect the health, welfare and safety of the public and the environment.

t. Odor Control pursuant to §§ 8.14(L) and (K) of this Part

u. Description of Routine Facility Housekeeping Procedures,

v. Facility Inspection, and Operations Maintenance Plan

(1) Description of the facility inspection plan including the items to be inspected routinely and their inspection schedule.

(2) Description of routine maintenance procedures on items to undergo routine maintenance and their maintenance schedule.

(3) Summary of corrective actions to be taken in the event of breakdown of significant equipment.

(4) Procedure to control vectors, litter, and dust pursuant to §§ 8.15(L), (M), and (N) of this Part.

w. Personnel Duties and Required Training

(1) An organizational/manning chart for the facility.

(2) Duties and responsibilities for each facility job position.

(3) A summary of the personnel-training program, which addresses the specific training needs to operate and maintain this anaerobic digestion facility.

x. Fire Control and Prevention Plan

(1) The proposed Fire Control and Prevention Plan shall be submitted to the Department and to the local fire authority or state fire marshal.

(2) The final approved Fire Control and Prevention Plan, showing approval by the local fire authority or state fire marshal, submitted to the Department, prior to facility operation.

y. Emergency Contingency Plans

(1) Contingency operations plan in event of receipt of hazardous waste.

(2) Emergency response plan in event of fire, explosion, or methane gas leak.

(3) Plans detailing corrective action in the event of groundwater contamination or chemical spills.

z. Substitute Processing/Disposal/Transfer

A plan describing alternate arrangements for incoming feedstock in the event of equipment failure, power outage, natural disaster, fire, receipt of contaminated or unauthorized waste, or if storage capacity has been reached.

aa. Communication Equipment

bb. Utilities

(1) Discussion of utilities that will be connected to the facility and in operation at the facility.

(2) Description of back-up power supply at the facility (or alternate method to address outages) to prevent risks to human health and the environment, and to prevent the creation of nuisance conditions (e.g. odor problems).

cc. Record-Keeping – A description of the records that will be retained at the facility.

l. Product Storage and Marketing

1. This rule applies to product(s) produced from anaerobic digestion and digestate management activities, and with the following information or requirements:

a. Storage Procedures- A description of the storage facilities and maximum storage capacities (tons or cubic yards) for product produced at the plant.

b. Anticipated Rate of Production of Product- the anticipated digestate production rate (tons/day, cubic yards/day or other quantitative description) and the anticipated recovery rate of product from the digestate (tons/day, cubic yards/day or other quantitative description).

c. Anticipated Product Quality - A description of the anticipated quality of Product(s) produced at the facility.

d. If the anaerobic digestion facility is producing finished compost, the product shall comply with the standards specified in § 8.12 of this Part.

e. If the anaerobic digestion facility is producing fertilizer, the product shall comply with the Department's Division of Agriculture's "Rules and Regulations Relating to Fertilizers", Part 40-20-10 of this Title.

f. Product(s) Sampling and Testing - A QA/QC plan, which includes product sampling and analysis details in order to determine the allowed use of the final product.

g. Product(s) Uses

(1) A discussion of the plans for use/re-use, sale or marketing of each product shall be provided.

(2) Identification of the anticipated markets, including the names and addresses shall be provided.

h. Schedule for Removal of Product(s) from Facility and the Distribution Plan

(1) Expected time frame for distribution of the product(s) (e.g. expected time elapsed after production of a batch of product, prior to distribution),

(2) Method for removal of product(s) from the facility,

(3) A plan for distribution of the product(s);

i. Packaging and Labeling of Product(s)

(1) A description of any packaging (if any) to be employed with the distribution of the product(s),

(2) Details of the information to accompany the distribution of the product(s) (e.g. copy of the label, information sheet, etc., relative to bagged or bulk compost).

j. Plan for Unmarketable or Sub-Quality Products(s) - The plan for use or disposal of product(s) that cannot be sold or marketed in the expected manner, due to poor quality or changes in market conditions.

J. Facility Closure Plan

1. This rule applies to all anaerobic digestion facilities, regardless of the status of their future operating plans, i.e., even if there is no plan to ever close the facility in the foreseeable future. Pursuant to the requirements set forth in § 1.5(J) of this Subchapter, this plan will include the following, at minimum:

a. Fences, gates and any other security measures to prevent unauthorized access to the site during closure and post-closure activities.

b. Measures taken to remove all remaining feedstocks, non-processible wastes, prohibited wastes, recyclables (if any), materials in digester, digestate, residue, biogas, product natural gas (if any), and other product(s) from the facility.

c. Methods to restrict access and prevent additional feedstock from being deposited at the facility, including physical description of any fences, gates and/or other barriers placed at the facility.

d. Discussion of impact of closure on legal boundaries of the site, changes in ownership, and description of anything that affects the legal boundaries of the site.

e. Intended future use of the facility and property, following closure (immediate and long-term use).

f. A financial estimate of the costs to properly close the facility shall be submitted with the application. The estimate shall be based on the maximum quantity of each of the items listed in § 8.3(J)(2) of this Part. The closure estimate shall be used to establish a Closure Fund or Closure Bond to ensure proper closure of the facility. The Closure Fund/Bond shall establish and maintain the amount necessary for a third-party closure and shall include all costs necessary for adequate closure. Periodic review and adjustments of the Fund/Bond shall be done as required. The applicant shall post financial assurance for the full amount of the closure cost estimate as a pre-condition for the issuance of a solid waste management facility license.

g. The site shall be subject to the restoration and/or remediation of the building, equipment and/or land so as not to pose a threat to public health and the environment and so as not to impair future use.

8.14 Anaerobic Digestion Design Standards

A. General

All anaerobic digestion facilities shall meet all the requirements set forth in this Part in addition to the General Standards in § 1.5 of this Subchapter.

B. Provisions for Limiting Access

1. There shall be gates with locks at all entrances to the facility to prevent access except at times when authorized operating personnel are on duty;

2. Fencing shall be required around the perimeter of the facility to prevent unauthorized access and illegal dumping at the site and to provide containment of wind-blown litter (if any).

C. On-site Roads and Access Areas

The facility shall be designed in a manner which prevents traffic backups and related traffic hazards on access roads serving the facility.

D. Emergency Access Provisions

Access and on-site roads shall have adequate space and shall be maintained to allow the unobstructed movement of fire-fighting vehicles and other emergency vehicles, equipment and personnel to the operating area of the facility.

E. Unloading Area Design Features

1. The approach and unloading area shall be adequate in size and design to facilitate the rapid unloading of feedstock from vehicles and the unobstructed maneuvering of vehicles and other equipment;

2. The unloading area shall be adequate in size and capacity to manage the projected volume of incoming feedstock;

3. The unloading area shall be graded or other measures utilized to prevent ponding of leachate from the feedstock;

4. The surface of the unloading area shall be constructed of impervious material, such as asphalt or concrete, capable of being cleaned by high-pressure water spray and equipped with drains, sumps or other means to collect liquids and leachate;

5. The unloading area for waste in solid form shall be fully enclosed with a negative pressure air collection and treatment system, in order to prevent odor problems and any other potential nuisances. An alternate system for handling solids that will provide similar performance in preventing odor problems or other nuisances is also acceptable.

6. Unloading of liquid wastes shall also be performed in a similar manner or shall be unloaded via hosing, piping, or similar means to enclosed structure(s) or vessel(s). The unloading area and the enclosed structure(s) or vessel(s) shall have secondary containment.

F. Incoming Feedstock Storage Area Features

1. The facility shall have a storage area with capacity to handle any waste received and accepted during temporary equipment outages (e.g. disaster shutdown) and to accommodate temporary surges in delivery volume.

2. All unprocessed feedstock storage areas shall be fully enclosed to prevent odors, control windblown dust and debris, prevent exposure to precipitation and collect liquids and leachate. The feedstock storage area shall comply with the requirements in § 8.14(L) of this Part.

3. The storage area shall be graded so as to minimize ponding of leachate from the feedstock piles. The storage area shall be equipped with drains, sumps or other means to collect liquids and leachate.

4. The surface of the storage area shall be constructed of impervious material, such as sealed asphalt or concrete, to minimize liquid release into the groundwater and to allow for cleaning with high-pressure water spray.

5. The storage area design features in §§ 8.14(F)(2) through (4) of this Part shall also apply to amendments, if any, to be added to the feedstock.

G. Design Provisions for Storage of Non-Processible and Non-Permitted Waste, Recyclables, Digestate, and Residues

1. The facility shall have the capacity for proper handling, storage and removal of non-processible waste and hazardous waste or other nonpermitted waste delivered to or generated by the facility.

2. The facility shall have provisions for segregation and proper storage of recovered recyclables, if recyclables are accepted as part of the incoming feedstock and if recovered recyclables are not immediately removed offsite for recycling. Acceptable options include storing in an enclosed structure with a roof, in a covered container box or other equivalent option.

3. The facility shall have provisions for segregation and proper storage of anaerobic digestion/digestate residues if such residues are not immediately re-processed or removed off-site for disposal. Storage shall be in a covered container box which is inside an enclosed structure with a roof in a designated storage area that complies with the requirements specified in § 8.14(L) of this Part. The covered container box shall be located on an impervious surface, such as sealed asphalt or concrete, to prevent leachate releases into groundwater. The Department will consider other equivalent options.

4. The facility shall have the capacity for proper handling and storage of digestates, both solid and liquid (if applicable), prior to further processing of these materials on-site (if applicable) or prior to removal of these materials off-site for off-site processing, distribution, or disposal.

H. Up-Front Processing Area Design Features (prior to anaerobic digestion)

1. If the facility performs any up-front processing of the incoming waste stream (i.e., removal of prohibited materials and non-processibles, recovery of recyclables, material size reduction or any other activities to improve the feed-stock prior to delivery to the anaerobic digester), then these activities shall be performed within the confines of an enclosed building to prevent odors, control windblown dust and debris, prevent exposure to precipitation and collect liquids and leachate. The feedstock processing area shall comply with the requirements in § 8.14(L) of this Part.

2. Floor surfaces shall be constructed of an impervious material, such as asphalt or concrete, to prevent liquid releases into the groundwater under the site.

I. Surface Water/Storm Water Management Design Provisions and Erosion Control/Sedimentation Prevention

1. The facility shall not be constructed or operated in a one hundred (100) year flood plain area unless provisions have been made to prevent encroachment of flood waters upon the facility and approval has been obtained from the Office of Water Resources;

2. Storm water management systems shall be designed to control the water volume of a twenty-four (24) hour, twenty-five (25) year storm and to prevent run-on from entering the receiving, processing, composting, curing or storage areas;

3. The design of the facility shall include erosion control measures, if needed.

J. Leachate Management Design Provisions

The facility shall have a leachate collection and removal system designed, constructed, maintained and operated to collect and remove leachate from the solids feedstock receiving and storage areas.

K. Fresh Air Controls

A detailed discussion of the fresh air controls to be utilized within the operations building in order to prevent adverse conditions.

L. Odor Control Design Features

1. The anaerobic digestion facility shall be designed so that all operations are conducted within the confines of an enclosed building, structure, or vessel. These activities include receiving and preparing feedstock, anaerobic digestion, handling and management of digestate, composting and storage of finished compost (if applicable) and preparation and storage of fertilizer (if applicable). Odor control design measures shall include, but may not be limited to:

a. The enclosed building, structure, and vessels shall maintain negative air pressure throughout the process or shall employ an approved alternate method;

b. The enclosed building, structure, and vessels shall utilize an air collection and treatment system that employs scrubbing devices,

filters, bio filters, or other approved alternatives prior to discharging to the atmospheric air.

2. The applicant can petition the Department to conduct an activity outside the confines of an enclosed building, structure, or vessel if it can be demonstrated that the facility will not impact the surrounding community. At a minimum, the facility shall satisfy the following:

   a. The facility complies with the buffer and setback requirements in § 8.14(M) of this Part.

   b. The facility shall propose and implement additional measures to prevent and mitigate odors.

M. Setback and Buffer Requirements

1. No feedstock, digestate, product or residuals shall be received (unloaded), stored, or processed on any well field or within one thousand (1000) feet of any private or public drinking water supply well or within the wellhead protection area delineated consistent with the wellhead protection program for a public well. If the owner or applicant seeks a variance from this requirement, then the Department will require demonstration that leachate (if any) from the anaerobic digestion facility will not impact on the water supply, under terms of the variance.

2. No feedstock, digestate, product or residuals shall be received (unloaded), stored, or processed within the watershed of any surface water used as a public drinking water supply. If the owner or applicant seeks a variance from this requirement, then the Department will require demonstration that any run-off from the anaerobic digestion facility will not affect surface water quality, under terms of the variance.

3. No feedstock, digestate, product or residuals shall be received (unloaded), stored, or processed within two hundred (200) feet of any body of surface water or freshwater wetland. If the owner or operator seeks a variance from this requirement, then the Department will require and the applicant shall demonstrate that any run-off from the anaerobic digestion facility will not significantly and adversely affect the surface water or wetlands, under terms of the variance.

4. No feedstock, digestate, product or residuals shall be received (unloaded), stored, or processed within one hundred (100) feet of the facility's property line. If all operations of the anaerobic digestion facility are conducted within the confines of a building, structure, or vessel the operations shall not take place within three hundred (300) feet of any residence, place of business, or other private or public facilities occupied by humans (excluding the facility owner/operator's residences, offices, or other structures involved with the operation of the anaerobic digestion facility).

5. If any activities related to the anaerobic digestion process occur outside, the operations shall not take place within five hundred (500) feet of any residence, place of business, or other private or public facilities occupied by humans (excluding the facility owner/operator's residences, offices, or other structures involved with the operation of the anaerobic digestion facility).

N. Design Provisions for Fire and Explosion Prevention, Protection, Suppression and Control

1. The facility shall be designed and constructed to prevent and minimize the potential for fire or explosion;

2. Facility design shall include provisions to monitor and mitigate explosive conditions and fire hazards;

3. The facility shall contain a properly designed fire suppression system with sufficient capacity to adequately control a fire within the facility.

4. The fire control and prevention plan shall be submitted to the local fire authority.

O. Communication Systems

The facility shall be designed with adequate communication systems to support normal and emergency operating conditions.

P. Back-up Power Supply

The facility shall be designed with a back-up power supply or alternative method to prevent risks to human health and the environment and to prevent creation of nuisance conditions (e.g. off-site odor problems).

Q. Facility Support Equipment Requirement

The facility shall have backup equipment on-site, or a contingency plan for essential items or those relating to critical issues, to support operations.

R. Storage Area for Replacement Parts and Equipment

A replacement parts and equipment storage area shall be included in the facility.

8.15 Anaerobic Digestion Operating Standards

A. General Operating Standards

The facility shall meet all regulations set forth in this rule and its sub-sections and shall comply with the provisions and limitations of all other pertinent regulations

of the Department, including the General Operating Standards in § 1.5 of this Subchapter.

B. Access

1. Access to the anaerobic digestion facility shall be limited to the hours in which authorized operating personnel are on duty at the facility.

2. Gates shall be locked and all access points shall be secured when the facility is closed and when no authorized personnel are on site.

C. Signs

1. There shall be a sign erected at the entrance to the facility, which is clearly legible and visible, and which shall contain at least the following information:

   a. Name of facility and operator,

   b. Emergency phone number,

   c. Restricted (prohibited) materials,

   d. Operating hours and days open;

2. There shall be adequate directional signs at the entrance and within the grounds of the facility to direct drivers to the appropriate loading area, assist in traffic flow, and regulate speed on facility property.

D. Traffic Flow

The delivery of feedstock to the facility and the removal of the generated materials by the operation shall be conducted so as to prevent traffic backups and allow the access way open for emergency vehicles.

E. Feedstock Screening and Inspection Operations

The owner/operator shall implement feedstock receiving area control measures that provide for the screening and inspection of the incoming feedstock to prevent the acceptance of prohibited or unauthorized feedstock types and to remove unsuitable material prior to the initiation of processing.

F. Incoming Feedstock Storage and Schedule for Processing

1. All incoming feedstock that is not immediately processed shall be confined to the designated storage area for such feedstock, until processing occurs;

2. Incoming feedstock shall be processed within three (3) days or disposed of in a manner acceptable to the Department, unless an alternate option is approved by the Department;

3. If the anaerobic digestion facility (including, but not limited to up-front processing operations and/or digestion operations) is out of service for a period of time that exceeds the storage capacity of the facility, then additional feedstock shall not be received during the outage period.

G. Substitute Disposal Provisions

1. The facility shall have an alternate method of disposal with another instate or out-of-state licensed solid waste management facility in the event of equipment failure, forced shut-down or other reason which prevents the facility from receiving or processing a part or all of its normal feedstock input or maintaining acceptable operating conditions and environmental controls. The alternate facility's name and address shall be submitted to the Department.

2. If, for any reason, the facility becomes inoperable, the owner or operator shall notify the Department within forty-eight (48) hours and implement this contingency disposal plan within three (3) days or sooner if off-site odor problems develop.

H. Non-Processibles and Prohibited Wastes Handling Procedures and Removal

If any non-processibles and prohibited wastes are received by the facility (in the incoming feedstock) and are not immediately removed off-site for recycling or disposal, then they shall be stored in a manner and for a time period that is approved by the Department, as provided for in the approved operating plan.

I. Recyclables Handling Procedures and Removal

Recyclables that are separated from the feedstock and not immediately removed off-site for recycling shall be stored in a manner as provided for in the approved operating plan.

J. Residues Handling Procedures, Removal, and Disposal

1. Residues from digester operations or separated from digestate or final products, if not immediately removed off-site for disposal, shall be stored in a manner for a time period that is approved by the Department, as provided for in the approved operating plan.

2. Any storage of residues (if any) shall be done in a manner that prevents nuisances and vector intrusion.

3. Disposal of residues shall be at a licensed solid waste management facility.

K. Odor Control

1. The operator shall prevent and eliminate conditions that create odors.

2. The facility shall be operated to control any odors that are created.

3. The facility shall not discharge air pollutants, which cause objectionable odors off-site (beyond the facility's property line). Odor evaluations shall be conducted by Department personnel to determine if an odor is objectionable by taking into account its nature, concentration, location, duration and source.

4. The anaerobic digestion facility must establish an odor complaint hot line. The facility shall have the ability to receive calls on a twenty-four (24) hour per day basis. (An answering machine may be used for this purpose.) Complaints received during normal operating hours shall be investigated and responded to immediately. Complaints received when the facility is closed shall be investigated and responded to within twelve (12) hours from when the complaint is received. All complaints received by the facility and actions taken in response to the complaints shall be reported to the Department within twenty-four (24) hours from when the complaint was received. The facility operating plan shall indicate how the odor complaint hot line will be established and what actions will be taken when odor complaints are received. Odor complaint forms shall be created and maintained by the facility.

L. Vector Control

1. The facility shall not operate unless any on-site vector population is minimized by appropriate techniques to protect public health as follows:

   a. Conditions shall be maintained that are sanitary and therefore unfavorable for the harboring, feeding, and breeding of vectors.

   b. Control of insects and rodents, when needed, shall be affected by means of a program directed by a professional exterminator utilizing insecticides and/or rodenticides or other means approved by the Department. Use of such pesticides shall be performed with care, such that finished product is not contaminated by these agents.

   c. The operator shall inspect the facility daily to detect any vectors and promptly take corrective action.

M. Litter Control

1. The operator shall not allow feedstock, digestate, finished product, residue, or other materials or wastes to be blown or otherwise undesirably deposited off-site.

2. The operator shall inspect the facility's property daily to detect litter and promptly take any necessary and corrective actions.

N. Dust Control

1. The operator shall prevent and eliminate conditions that create dust.

2. The operator shall use suitable methods and take appropriate actions at all times to control dust at the facility, also including access roads to and from the facility and other areas related to facility operation.

3. The operator shall inspect the facility daily to detect any dust accumulation and promptly take corrective action.

O. Air Standards

1. Any anaerobic digestion facility shall not violate the following:

a. State implementation plans approved or promulgated pursuant to R.I. Gen. Laws Chapter 23-23; the Rules and Regulations to implement such Chapter, and any applicable provisions of the Clean Air Act, 42 U.S.C. § 7410 (2017).

b. The Rhode Island Clean Air Act, R.I. Gen. Laws Chapter 23-23 and the Rules and Regulations promulgated thereunder.

c. Odors: The anaerobic digestion facility shall not emit or cause to be emitted into the atmosphere any air contaminants or combination of air contaminants which creates an objectionable odor beyond the property line of said facility. Odor evaluations shall be conducted by Department personnel to determine if an odor is objectionable by taking into account its nature, concentration, location, duration and source.

P. Surface Water Pollution

The facility shall not cause pollution of the surface waters of the United States so as to violate the R.I. Water Pollution Act, R.I. Gen. Laws Chapter 46-12, as is or as amended, § 402 of the Clean Water Act, 33 U.S.C. § 1251 *et seq*. (2017), nor shall the facility cause a discharge of dredged material or fill in violation of Section 404 of the Clean Water Act.

Q. Groundwater Pollution

The facility shall not cause pollution of any groundwater. In addition, the facility shall comply with the requirements of the Clean Water Act, 33 U.S.C. § 1251 *et seq*. (2017), and the regulations adopted pursuant to the Act, specifically 40 C.F.R. § 257.3-4 (2017).

R. Storm Water Control, Sedimentation and Erosion Control

1. The applicant shall submit a storm water, sedimentation and erosion control plan to the Department for its review and approval. The plan shall include, but not be limited:

    a. Implementing any necessary control measures to divert storm water away from all operation areas and to minimize the surface water run-off onto nearby properties.

    b. In the event that storm water does come in contact with feedstock being stored or processed, digestate being processed, composted or cured (if applicable), or with digestate residue, the stormwater shall be considered leachate and shall be diverted to the collection area for proper disposal or shall be re-used in processing activities.

    c. The facility owner and/or operator shall employ procedures to prevent and minimize erosion and sedimentation during construction, operation, and after closure.

    d. The facility shall implement steps to prevent tracking of any on-site sediment onto the public roads.

S. Leachate and Wastewater Control

1. All leachate must be managed by a Department approved method and treated, if necessary, to meet any applicable requirements.

2. The facility shall contain, collect, recycle, or properly dispose any and all liquid waste received or generated at the facility.

3. Any wastewater and liquid waste that is not recycled, but instead disposed, shall be disposed in a manner that does not pollute any source of private or public water supply, any waters of the state, or groundwater.

T. Operational Records Requirements

1. The owner or operator shall record and shall maintain (for at least three (3) years) the following information regarding daily facility activities. Records shall be available for inspection by Department personnel during normal business hours. Daily records and logs shall include the date of the event.

a. Source, description and quantity of all feedstocks received at the facility, as well as any amendments to be used in the digestion process. These records shall be recorded on a daily basis and on the day the feedstock is received;

(1) The "source" shall include the name and address of the generator or point of origin of such feedstock, or amendment used in the digestion process,

(2) "Quantity" shall be the weight or volume of feedstock or amendments received and the quantity of each type of material shall be recorded individually and separately.

b. Description and quantity, by weight or volume, of prohibited or nonprocessible wastes transported from the facility and destination of such waste, recorded on a daily basis. These wastes shall include, but not be limited to, any hazardous, non-permitted, or other wastes in the incoming feedstock, which have been separated out.

c. Description and quantity, by weight or volume, for each category of recyclable, salvaged, or recovered material transported from the facility and destination of such material recorded on a daily basis.

d. Description and quantity, by weight or volume, of residues transported from the facility for disposal and destination of such residues, recorded on a daily basis.

e. Description and quantity by weight or volume, of any feedstock by-passed by the facility in the event of equipment failure or forced outage or other reason which prevents the facility from receiving or processing this feedstock. This daily record shall indicate that this is by-passed waste and shall indicate the reason for bypassing the feedstock and the destination of such feedstock.

f. Quantity of non-marketable product material, by weight or volume, transported from the facility for disposal and destination of such material, recorded on a daily basis. This record shall indicate that the material is non-marketable and the record shall indicate the reason (e.g., lack of market, does not meet market specifications, does not meet product quality standards for Class "A", "B", or "C" compost or other reason).

g. A description of and the quantity by weight or volume, of product transported from the facility, and the destination of the product and planned use of the product, recorded on a daily basis.

h. Digester process monitoring data, collected on a daily basis, at least demonstrating that any digestate that will be distributed as a product has been subject to a method to reduce pathogens to the extent equivalent to the reduction achieved by methods shown in § 8.11(N)(5) of this Part.

i. A record of actions log, which provides a summary of corrective actions taken by the facility owner/operator, relative to any deficiencies noted in Department inspection reports and relative to any deficiencies or violations issued by the Department in letters of deficiency or notices of violations.

j. Summary of all maintenance procedures on processes, equipment, or monitoring and control systems, and site inspection records.

k. Personnel Training Records - Training records that document the type and amount of training received by current facility personnel shall be maintained at the facility in accordance with the operating plan.

l. Any other records to be kept, as required by the Department or as provided in the approved operating plan.

U. Operational Reports to DEM

The facility owner and/or operator shall provide periodic written reports of operation, if required by DEM per the approved license. The details and frequency of reporting shall be provided in the approved operating plan or as license conditions.

V. Facility Equipment Requirements

1. The operator shall maintain on-site equipment necessary for facility operation in accordance with the license. The equipment shall be maintained in an operable condition.

2. Replacement equipment and parts for equipment which are subject to excess wear or frequent breakdown, due to the nature of operation shall be available to provide for expedient repair.

3. If a breakdown of operator's equipment occurs, standby equipment shall be utilized as necessary to comply with any license condition.

W. Facility Inspection and Maintenance

1. The operator of the facility shall maintain all facility components, systems, and equipment in a manner that facilitates proper operation and minimizes downtime.

2. Immediately following the initiation of facility operation, facility personnel shall begin routine inspection for operating effectiveness and equipment/component/system deterioration or malfunction.

3. A planned maintenance and overhaul schedule for major equipment shall be established and executed during facility operation.

X. Health and Safety

1. The facility shall be designed, operated, and maintained in such a manner so as to protect the health and safety of users of the facility and personnel associated with facility operation, and persons in close proximity to the facility.

2. First aid facilities and supplies shall be available at the facility.

Y. Fire Prevention and Protection

1. The facility shall be maintained and operated to prevent and minimize the potential for fire or explosion.

2. The facility shall have a suitable quantity of water at sufficient pressures suitable for fire-fighting purposes and approved by the local fire authority.

3. Portable fire extinguishers and fire control equipment shall be available and in proper working condition, at the operating area of the facility.

Z. Emergency Support Services

The facility shall have arrangements, in writing, from nearby fire department, police department, rescue service, medical service, hazardous waste emergency response company, and hazardous waste transporter to provide emergency services in case of facility fires, explosions, hazardous waste incidents or other similar emergencies.

AA. Personnel Staffing Requirements

1. There must be at least one trained attendant (trained in the operation of the facility) on site during any and all operating hours that the facility is open to receive waste.

2. The facility shall maintain sufficient types of quantity and personnel during each operating shift to assure the proper and orderly operation of all components and systems, along with the ability to handle all routine maintenance requirements. Such personnel shall have sufficient educational background, employment experience, and/or training to enable them to perform their duties in a safe and competent manner.

BB. Facility Management

1. Each operating shift shall have a designated shift supervisor or equivalent to direct and implement operational decisions during that shift.

2. The operation of the facility shall be under supervision and control of qualified individual(s) during all operating hours.

CC. Personnel Training Programs

1. There shall be a comprehensive training program for all employees covering normal job responsibilities and procedures, emergency situations and procedures, and safety issues.

2. Employees involved with operation and/or maintenance of the facility shall receive training at least annually.

3. Facility specific training manual(s) shall be used for training facility personnel. The manual(s) shall be kept up-to-date, with any necessary revisions made at least annually. The manual(s) shall be kept in a readily accessible location and shall be available for inspection by the Department.

4. Operating and maintenance personnel shall receive their initial training prior to assumption of operational/maintenance activities.

DD. Emergency Contingency Plans

Contingency plans and procedures to handle fires, explosions, hazardous waste incidents and similar emergencies shall be developed for facility personnel and in conjunction with local authorities (police, rescue, fire, medical groups, hazardous waste response companies and transporters), prior to facility operation.

EE. Operation and Maintenance Manual

An operation manual of policies and procedures specific to the facility shall be prepared and updated as needed and available at the facility for inspection by the Department. It shall include general design information, and detailed operational information and instructions that enable supervisory and operating personnel to determine sequence of operations, and routine maintenance procedures with schedules to be followed. Also, it shall include safety requirements and procedures, emergency shutdown procedures and trouble-shooting procedures.

FF. Facility Closure Plan

1. The facility's owner/operator shall notify the Department at least three (3) months prior to the anticipated date that closure operations are to begin.

2. The facility must implement the approved closure plan.

3. Requests for deviations from the previously approved closure plan shall be in writing, including an updated final closure plan, if appropriate, and written approval from the Department must be obtained prior to implementation.

4. After the closure plan has been fully implemented, the Department shall be notified so that an inspection may be made by Department personnel. A list of deficiencies, if any, will be returned to the owner of the facility. A final Department inspection will be required after all deficiencies are corrected.

5. A professional engineer registered in the State of Rhode Island shall certify that the facility is properly closed in conjunction with its approved closure plan.

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TITLE 250 - DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

CHAPTER 140 - WASTE AND MATERIALS MANAGEMENT

SUBCHAPTER 05 - SOLID WASTE

PART 8 - SOLID WASTE REGULATION NO. 8, RHODE ISLAND ORGANIC WASTE RECYCLING FACILITIES (COMPOSTING REGULATIONS) (250-RICR-140-05-8)

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